



February 2002

Volume 70 No 2

# Amateur Radio



**The ultimate  
home brew**

- ★ **"Tone-a-Volt" Audible Voltage and Component Tester**
- ★ **Neville Mattick VK2QH gives *66 Tips for 6***
- ★ **A Field Day or Emergency Portable Mast for VHF & UHF Antennas**

**The DISCONE:** good broadband antenna for VHF and UHF,  
cheap and easy to build



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# Amateur Radio

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## Our cover this month

The station shown here is homebrewed except for the microphones and the clock. It is a tribute to the Amateur spirit and in particular to George Hodgson VK2OH who built it. Long Live Homebrew!

### Contributions to Amateur Radio

Amateur Radio is a forum for WIA members' amateur radio experiments, experiences opinions and news. Manuscripts with drawings and/or photos are always welcome and will be considered for publication. Articles on disc or email are especially welcome. The WIA cannot be responsible for loss or damage to any material. A pamphlet, How to write for Amateur Radio is available from the Federal Office on receipt of a stamped self-addressed envelope.

### Back Issues

Back issues are available directly from the WIA Federal Office (until stocks are exhausted), at \$4.00 each (including postage within Australia) to members.

### Photostat copies

When back issues are no longer available, photocopies of articles are available to members at \$2.50 each (plus an additional \$2 for each additional issue in which the article appears).

### Disclaimer

The opinions expressed in this publication do not necessarily reflect the official view of the WIA and the WIA cannot be held responsible for incorrect information published.

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A radiocommunication service for the purpose of self-training, intercommunication and technical investigation carried out by amateurs; that is, by duly authorised persons interested in radio technique solely for a personal aim and without pecuniary interest.

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## Editor's Comment

### Gremlins!

This month has been a bit of a hassle. More things than usual went wrong. None of them big but added together they just made things difficult and wearing. However we have a magazine so I have to write the Editorial.

The month of January has seen a lot of activity on the future of AR. The possibilities range from none to continue as is. One major factor will be cost. Others much more important to the continuation of the WIA is "Do we need AR" and "Can we continue as a viable organisation without it". You the members will have to make the final decision so please discuss it with your friends, at your Radio club and with your Divisional officers, in particular your Federal Councillor. Surveys have been arranged in VK3 and VK6.

In the December issue, page 7, I published a letter on three year licence payments. The letter put forward one Ham's story with one ACA officer and named the officer. The ACA has now informed the WIA that the method of approach was incorrect and we should not have named the particular officer. While the information was correct when obtained, there was a pending fee alteration which had not been passed to all officers. We wish to acknowledge the helpfulness of the officer in dealing with the inquiry. However the ACA therefore have requested

1. Unless it has been explicitly agreed beforehand, please do not refer people in Amateur Radio and elsewhere to specific officers within the ACA. Please use the ACA's nation-wide local rate number (1300 850 115) for enquires, except where there is an agreed contact officer for a particular issue. Amateur enquires will normally be handled by the

local ACA office, unless they are of policy or national significance, in which case they will be dealt with by the Customer Services Coordination Team.

2. Please check fees, changes of policy, etc with the Manager, Customer Services Coordination (ie Gill) if at all possible before going to print. We would probably have been able to tell the author about the forthcoming fee changes, whereas someone in a Regional Office may not have access to the same level of information.

Exams. Please note, the WIA exam service reopens 1<sup>st</sup> March and VK2DQ Ron Bertrand's Internet course is on the web at <http://www.radioelectronicschool.com>

### Apology

We apologise to Ted Miles VK2FLB our notice of his passing was premature and he has informed me that our notice was incorrect. Ted had advised us of the passing of George Stanly Schulze VK2GX and some how his name was associated with the SK list. Ted, we are very sorry and we hope you continue to enjoy a health and fulfilling life.

### Seonet 2002

Perth is hosting the *Seonet Convention* on the 1st, 2nd & 3rd November this year with the backing and assistance of the "Northern Corridor Radio Group". They have a Web site up and running the site is — [www.qsl.net/seanet2002](http://www.qsl.net/seanet2002)

Well I survived the UHF Summer Field Day as a grid hopper. Had a good time. Now will have to get the HF gear ready for the John Moyle Field Day. Look in the Contest Column for the Australian 2002 Contests.

Enjoy your Amateur Radio activities in whatever field they lie.

73 Colwyn VK5UE

## PLAN AHEAD

## John Moyle Field Day

March 16 & 17

See page 42 for details



## "Another quiet month at WIA Federal"

As a youngster I well remember watching Laurel and Hardy and trying to understand their throwaway line about "Another fine mess that you've gotten me into". I was reminded of this as I sat down to put pen to paper to relate the activities at Federal WIA since my last report. It does seem that every way we turn at the moment that another issue crops up to challenge us. At least in sitting down to write this report it does make me realise that amateur radio is still a very vibrant hobby - if it was not then I suspect we would not be presented with quite as many challenges.

In the last few weeks correspondence has mostly been focused on the issues of the future of AR, debate on the possible structure of the WIA and the question of allocation of the recently released AA call signs for VK0 and VK9. In addition the subjects of the launch of the Foundation licence in the UK, inappropriate band usage on 40m band, the ongoing debate on the 70cm band plan, beginning to plan for the 2002 convention which will be held in Melbourne, and lastly but by no means least trying to get someone to volunteer to pick up the task of the editor for the reference material from the call book. To stay within the space our editor Colwyn allocates me I will concentrate on the major issues.

I will start with the launch of the Foundation licence in the UK. We were all very aware of the launch date but I suspect many of us were surprised at the extent of the take up of the new licence in its first days. As I have earlier alluded to, the WIA must have a clear position on the form that we would like to see such a licence take here in Australia. Given the success of the UK model perhaps we should take heed of their approach. I know that David Pilley has put together an article in this issue of AR describing what was done. It's worth the read. I am still looking for volunteers who can help in putting together the

WIA position so that we can be ready to finalise our position at the Federal convention and go to the ACA and DoCITA with our case.

### Progress on AR

Last month I made reference to collating the results of member correspondence over the future of AR. In reviewing the correspondence I quickly realised that I could not use the responses as the basis of any realistic statistical treatment of member views. However I can summarise the main results. These include responses from over 100 members when I include the survey results from the VK6 web page - well done to all in the VK6 Divisional council who took part in this survey initiative. This level of response is very favourable in view of the current membership numbers:

- There was a strong positive response to publishing AR on the web (at least 40 positive replies, and only 5 against). There remains a concern that not all members have Internet access. On the positive side a number of members pointed out that accessibility software often made electronic articles more available to those with impaired vision.
- There was strong support for reducing AR to 6 issues per year (59 positive replies)
- There was strong support for publishing AR more widely. There was no distinction made between the WIA publishing AR directly or achieving this in conjunction with a commercial organisation although the need to retain full editorial control was identified as a concern.
- There were 4 replies suggesting that we might look at a joint publication with NZART
- There was a strong overall indication that most people were

concerned over increasing costs. A number of responses indicated that we should look carefully at cost reduction measures as a means to increase membership. One response noted that it was better to get something rather than nothing from members. As a pensioner he made it clear that the only reason for non-renewal of membership was the high cost as a proportion of his pension.

- A number of replies pointed out the importance of AR as the Institute's House journal,
- A small number of responses identified the importance of AR as a vehicle for the publication of construction articles, but surprisingly there was no response from the contest or DX community - it appears that they have already made the transition to the web as a way of managing their activities.

At this stage I have received a number of quotations from suppliers of potential solutions. I am now in the process of documenting these costed options so that I can present them to council in the near future.

### WIA structure issues.

At last year's convention there was some discussion of Martin Luther's paper on the future structure of the WIA. At that convention no specific conclusion was reached and although there has been some continued discussion we are not really any further forward. I know that a number of us are continuing to investigate options. At least one member is trying to rewrite the current WIA articles of association in an attempt to reach a position which better meets members requirements. The debate has I believe also been taking place various at Divisional meetings. I intend to make myself available during the forthcoming

*Continued on page 7*

# "Tone-a-Volt" audible voltage and component tester

Drew Diamond, VK3XU  
45 Gatters Rd.,  
Wonga Park, 3115.

Multimeters are marvelous. For a modest price, we can buy a little digital meter, which will measure all the usual electrical quantities. And for a little extra cost, you can have an instrument that does capacitance, inductance, and even frequency, but these devices all assume that the user can see the meter. There are applications, in continuity testing for example, where it may be operationally awkward, or slow, to have to watch a multimeter's display, when all that may be required is a response to a go/no-go test.

A few years ago, Tandy offered a neat little talking multimeter, which was of great utility, particularly to vision-impaired enthusiasts. Unfortunately, that instrument is no longer marketed. Details of a homemade audible tester are therefore offered. There are just two

modes of operation; Ohms (resistance) and Volts. When the probe leads are applied to a short-circuit, a tone of about 500 Hz is emitted. Tone frequency descends as resistance increases, so that a P-N diode junction for instance, produces about 450 Hz, and at 10 Megohms the output burbles at about 50 Hz. When measuring potential, tone frequency rises with voltage. For example, a forward biased silicon junction (about 0.6 V) produces about 200 Hz, 1.5 V gives 350 Hz, 5 V; 500 Hz, 12 V about 800 Hz, and 18 V yields about 1000 Hz.

The Ohms (or "buzz") mode may find use in checking the goodness and continuity of wire connections (and give a much quicker response than an ordinary visual display), in looking for shorts, opens and P-N junctions in circuitry (again, quicker than a meter) and so on. Capacitors, when first connected will cause a gliding tone or squawk that dies

away at a rate according to the size and quality of the capacitor. In the Volts mode, the user may check for the presence, polarity and approximate value of voltages (in battery checking for instance), which should make the device of particular use to vision-impaired persons.

## Circuit

An ordinary NE-555 timer chip is wired as an astable relaxation oscillator. Trigger point may be altered (and therefore the frequency) by varying the voltage applied to the discharge pin 7, thus making the '555 behave as a voltage controlled oscillator. When the voltage (with respect to ground pin 1) equals, or is less than about +6 V, the chip stops oscillating. As the positive voltage is raised beyond 6 V, the circuit will oscillate at an increasingly higher frequency, as noted above. In order to make the '555 respond to dc levels just over 0 V; a positive bias voltage must be applied for voltage measurements. The necessary bias is supplied by the voltage divider comprised of the 10 k - 10 k trimpot - 22 k resistor string. The slider of the trimpot is set for about +6 V. Now, input voltage, applied via the probes will add to the standing bias voltage, and thus cause the '555 to oscillate.

In the resistance (Ohms) mode, S1 configures the input such that the +9 V supply rail is made available as input voltage. When a resistance, or short-circuit is placed across the probes, the '555 oscillates. The input circuit switch S1 is wired so that a positive potential in the Volts mode shall cause a tone

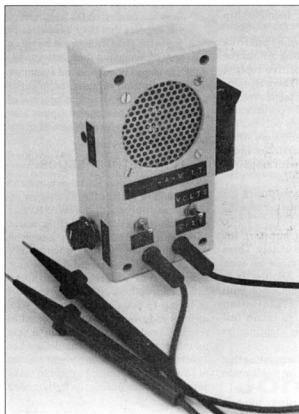
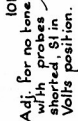


Photo 1. "Tone-a-Volt" tester



200 Hz = 0.6V  
350 Hz = 1.5V  
500 Hz = 5V  
800 Hz = 12V  
1000 Hz = 18V

500 Hz = 0  $\Omega$   
450 Hz = diode  
50 Hz = 10 M $\Omega$

### Tone-a-Volt™ Tester.

—VK3XU—

Fig 1

### Figure 1

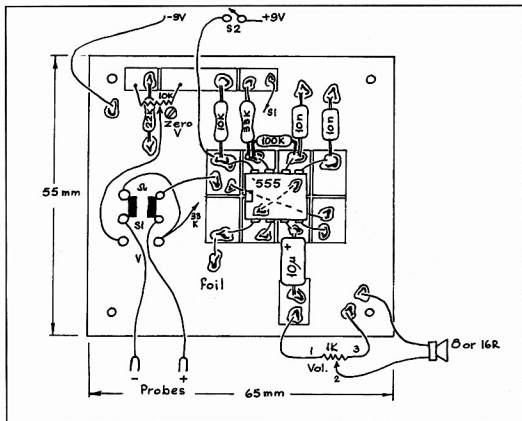


Figure 2

response, and when switched to Ohms, the 'positive' lead presents a positive potential to the device under test. So, if the P element of a transistor or diode junction is connected to the positive test lead, and the N element to the negative lead, the tester will beep.

## Construction

A plain circuit board measuring 55 x 65 mm accommodates most of the components. A suggested 'paddyboard' (see Ref 2) layout is shown in Fig. 2. However, construction method is not at all critical, so that just about any wiring style that you prefer—even 'dead-bug', should work satisfactorily. It is recommended that the '555 chip should be fitted into a suitable 8-pin I.C. socket and soldered with tinned wires (about 0.6 mm) to an 8-land substrate, which in turn may be super-glued upon your circuit board.

The case shown is a 'jiffy' box measuring 130 x 68 x 44 mm, and is available from the usual electronics suppliers. An internal view of the

prototype is shown in Photo 2. Leave sufficient hook-up wire lead lengths so that the front cover may be fully opened for access. An external holder for the 9 V 'transistor' battery is strongly recommended, particularly if you are making this tester for a blind mate. A pair of ordinary banana sockets, spaced 0.75" should be provided for connection of the probes.

## Operation

Give the wiring, soldering and parts placement a thorough visual inspection. Install a fresh (preferably alkaline- for lowest internal resistance) 9 V 'transistor' battery and switch on. Turn the 1 k vol. pot to about half travel. With switch S1 in the Ohms position, short the test probes together. You should hear a tone of about 500 Hz. Grip each probe tip with your body as the 'circuit'. You should be able to vary the tone by squeezing and relaxing your grip upon the probe tips, thus proving correct operation of the Ohms function.

Switch S1 to Volts. Short the probes and adjust the 10 k 'zero Volts' trim-pot so that the '555 just ceases oscillating—thus setting the circuit for best sensitivity. Test by connecting the probes to various sources of voltage. For example, a 1.5 V cell, then 6 V, 9V and 12 V batteries if available. Or you could connect the probes to a variable voltage dc power supply. Some typical Voltage : Frequency figures are shown on the schematic diagram in Fig. 1.

Diodes and transistor junctions may be checked by connecting the probe leads one way, then the other—a 450 Hz tone should be heard when the diode is conducting, silence for the reverse direction. For transistors, also check for leakage by connecting between collector and emitter, base open. For a good NPN, with the positive lead on the collector, negative on the base, a sweaty finger applied between the base and collector should turn the transistor on and cause a buzz.

Capacitors as small as 5 nF (0.005 uF) may be checked. In ohms mode, connect

the capacitor to the probe leads- you should hear a click or a squawk, then silence, depending upon capacitance. Larger caps will cause a correspondingly longer squawk. A good low-leakage electrolytic, when correctly polarized, should eventually cease clicking when fully charged- although caps which have been out of use for some time may need 'forming', but should eventually settle to about 5 or so clicks per second, indicating very low leakage.

## Parts

All of the components specified are available from our familiar electronics vendors, including Altronics, Dick Smith Electronics, Electronics World and Jaycar. My 'Jiffy' box is a Jaycar HB6023. The 1 k vol. pot may be a miniature or ordinary sized part, depending on space available. Miniature switches are suggested for S1 and S2. The speaker may be a small transistor radio type, 8 or 16 ohms.

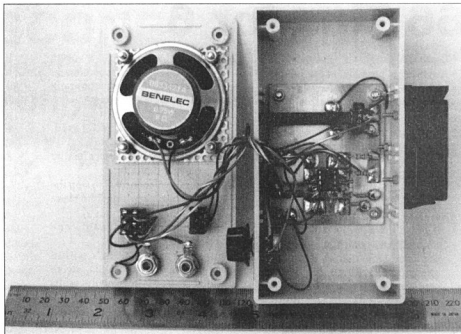


Photo 2. Internal view

## References and Further Reading:

1. Conversations with Dave Buck, VK3AAD.
2. "Paddyboard" Circuit Construction; Diamond, AR, Feb. '95.

3. I.C. Timer Cookbook; W. Jung, Sams Publications.
4. Engineer's Notebook, F. Mimms, Archer Publications.
5. 555 Timer and Applications; M. Sharma. BPB Publications.

ar

# WIA Comment

*Continued from page 3*

Wyong field day to discuss this matter with anyone who can spare the time. I would like to be able to put some time aside at the 2002 WIA AGM to have some further discussion of this matter with the Divisional councillors. In order to make this a success I would ask that you make your views known to me as well as taking the time to lobby your local Divisional Federal councillor. They need to know your thoughts if they are to represent your views in the National debate.

## AA call signs for VK0 and VK9

As a result of the ACA decision to release the AA series of call signs there has been some debate on what the WIA policy is

or needs to be. The discussion of this issue has identified a significant management issue for the Federal organisation - namely the need to record and advertise WIA policy on such matters. I have identified this as a major issue for all of in the Federal WIA. If we are to be better informed and better able to improve matters it is imperative that we can easily gain access to WIA policy. For me it has been as an ongoing battle to ensure that I can comment on matters of concern to amateurs safe in the knowledge that I am aware of current policy. I have identified that we need to have a catalogue of WIA policy that is readily available to all members. The sort of thing that I currently envisage is a searchable area on the WIA web page where members can gain access to

current policy. For members without direct web access I would propose that their local council or club arrange to perform the search, print the results and send on the results of the inquiry.

I will draw this month's column to a close noting that I need to get back to preparing for the forthcoming International Radio Communication Advisory Committee (IRAC) meeting. As I noted last year this is a great opportunity for amateurs to have a voice nationally to ensure that the interest of both amateurs and all Australians are met in the preparation for the World Radio Conference in 2003.

73s and I look forward to meeting as many of you as possible at the Wyong field day.

**Ernie Hocking VK1LK**

# 66 Tips for 6

- Learn CW
- Anything is possible on Six metres
- Maximum distances are worked from every location some time every cycle
- Listen a lot, transmit a little
- Use a CW filter or narrow band for phone
- Avoid 50.110 for everything but DX that is determined to work you there
- Never rag chew on the call frequency, if called there qsy next over
- QSY at LEAST 50 to 100 kHz up the band for SSB, there is plenty of space above 50.15 for casual contacts
- Study the lists of worldwide indicators published on the Internet as a guide to propagation in your area
- Every location is different, be content with your results, not what someone else may have worked
- Choose a transceiver with a good noise blanker
- Minimise noise of all kinds as much as possible
- Fax machines are notorious sources of noise
- Cover all the PCs possible with toroids on each lead
- Use quality headphones for every session
- Connect only with N style connectors
- Low loss coax of at least 16 to 20mm outside diameter
- Seal all connections with bitumen seal to exclude water
- Be utterly familiar with your transceiver
- Use a low noise (modest gain 8dB) pre-amp in the receive line as close as possible to the antenna
- Use computer analysis (K6STI's YO is a good start) to optimise the yagi antenna
- Peak a maximum gain antenna for 50.110
- Use a fast reliable rotator
- Select a high front to back ratio to exclude noise and QRM
- Get that antenna as high as possible
- Work DX when the band is open, even if you have worked Japan or

Mexico before, there is a strong likelihood that many operators at the other end will need your prefix or country for a new one

- Remember we all had to start somewhere, one DXCC, grid, whatever is your fancy
- Record every QSO either on a quality tape deck or digitally
- Incorporate a silence relay to stop the tape when transmitting for a clean recording
- QSL everybody who wants one promptly
- Send your wanted QSL's within several days of the QSO, strike whilst the iron is hot usually results in confirming that contact
- Make sure your envelope contains return postage
- Will the return envelope be large enough to hold an average QSL card
- Always use self seal envelopes, active DX stations and QSL managers hate sealing hundreds of envelopes with tape or glue
- Is the return envelope Air Mail marked? Some postal systems do not automatically use Air for return post
- Ignore bad childish behaviour on the band, tune away and call CQ just to show them what they are missing by landing some rare DX
- Regularly check that your transmission is going where you want by having a clean signal
- Look for the in obvious paths for propagation
- Just because it hasn't happened on a particular path, doesn't mean it won't
- There are many more paths, modes and countries waiting to be a Six Metre first for someone
- Watch for unusual indicators in the 30 to 50MHz sub band then listen/call
- Simplify your logging with a computer log book as you QSO
- Have the PC online during the peak windows watching the various logging sites
- Share your results with a quick post
- After the opening submit the log extract to an email system or place

Neville Mattick VK2QF (ex 4W/VK2QF)

it online to help others understand the openings

- Be patient (very)
- White noise isn't so bad, especially when it's interrupted with someone from the other side of the world
- Let others have the frequency as soon as possible
- Keep your QSO's brief
- Don't exchange more than needed to validate the QSO, grids can be read on the web or QSL card
- Use standard phonetics
- Slow and steady morse around 20 words per minute with plenty of word space works best
- Contesting is an excellent method to practice DX QSOing technique
- Be prepared for strange call signs during openings, contesting is a way to have an open mind for prefixes that are totally different from the ones in across town QSOs
- Equinoxes provide (F2, TEP and combinations with Es) the majority of propagation on Six
- Solstice propagation (mostly via Sporadic E) has powerful potential to give rewards
- Help DXers with whatever they want, no station out on the island means no QSO!
- Donate old gear, any sort can put another country on the air
- It's only a hobby
- Remember your family, friends and work come first
- Tune the band frequently during openings and well away from the call frequency, many people never operate near there due to QRM
- Have a second rig or receiver scanning on an MUF or omni antenna
- Set one rig's antenna to scan in the opposite direction to the other looking for openings
- Scan all indicators in one mode to gain an idea of their strength and relevance to openings
- Set the scan frequencies in a descending order in memory channels, like a spectrum sweep to predict the MUF
- Have FUN!

# The DISCONE

## — a good broadband antenna for VHF and UHF, relatively cheap and easy to build

Mike Todd VK6JMA

(vk6jma@email.com)

From "Amateur Radio Companion CD-ROM"

The discone is a vertically polarised broadband antenna which exhibits a SWR of 1.5:1 or better over a wide range of frequencies. Below its design frequency, the SWR rises sharply but within its range of resonant frequencies the antenna has an impedance of close to 50 ohms. The discone is used mainly at VHF and UHF frequencies, as the size becomes too cumbersome for HF.

The discone antenna consists of a disc-like top section and a cone-like bottom as shown in the picture to the right. The top section is composed of 6 - 8 radials. The cone-like skirt consists of an equal number of radials. Generally 6 radials give good performance for receiving equipment such as scanners, but 8 radials are more commonly used for transmitting.

Dimension "L" is equal to  $\frac{1}{4}$  wavelength of the lowest design frequency in free space. The disc is 0.7 of  $\frac{1}{4}$  wavelength in diameter, making each of the disc radials  $0.35 \times \frac{1}{4}\lambda$  in length. The disc diameter is calculated:

$$\text{diam} = \frac{1}{4} \times 300 \times 0.7$$

where  $f$  is the lowest design frequency in MHz.

Half of this value is, of course, the radial length.

The cone radials are wavelength long and the base of the cone is  $\frac{1}{4}$  wavelength in diameter, meaning that the cone radials slope down at  $60^\circ$  from horizontal.

### An easy (rough-and-ready, but it works) method of construction.

For 144 MHz and above #12 (2mm) steel wire is usually strong enough (except for standing up to birds, hailstones and other heavy objects which may fall from the sky).

Referring to Figure 2:

1. Decide on the lowest frequency of operation for your discone. A discone with a bottom frequency of

144 MHz will give good performance on 430 MHz (70cm) and 1240 MHz (23cm) bands.

2. Make two circles of wire, about 3cm in diameter with a small tag. Use about 12cm of wire for the circles, this gives enough excess for a 2-3cm tag. The tag will be used for attaching the feedline.
3. Cut the radials for the disc at 0.35 of  $\frac{1}{4}$  wavelength + 1-2cm for your chosen base frequency.
4. Cut the radials for the cone at  $\frac{1}{4}$  wavelength + 1-2cm long. The extra 1-2cm is for wrapping and soldering to the centre ring.
5. Taking one circle, make a 'hook' in the end of each radial. Put the hook around the edge of the ring and pinch closed with pliers. This prevents the radials falling off before they are soldered in place.
6. Attach the rest of the radials, evenly spaced around the ring.
7. Repeat steps 5 and 6 for the cone. Don't worry about the slope at this stage, it is easier to set the slope with the antenna assembled.
8. The disc needs to be insulated from the cone. To achieve this you will need 5 wooden spacers. Two of them must be sized to fit inside the ring; the other three must be larger by 1-2cm (diameter). Each disc must have a hole drilled through the centre for a retaining bolt, as shown in the Figure 3. These can be made using a holesaw in practically any wood.
9. Assemble the antenna upside-down, placing the bolt through the top (large) spacer. Add a small spacer then position the disc section with the ring fitting around the small spacer. Add another large spacer then the other small spacer. Position the cone section with the ring fitting around the small spacer. Finally add the remaining large spacer. (Figure 3)

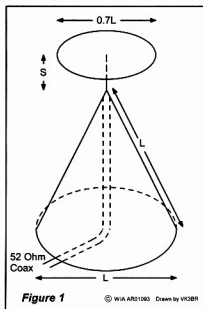


Figure 1. Basic Discone parameters

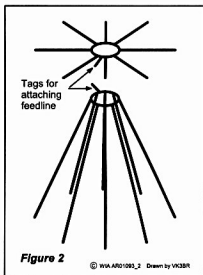
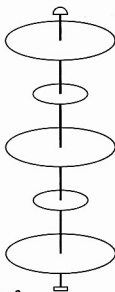


Figure 2. Skeleton Discone construction





**Figure 3**  
Construction of the joining hardware

10. To attach the antenna to a boom to set the slope of the cone radials, you will need a small L-shaped bracket with a hole drilled through the small end of the 'L'. This goes on the bottom of the assembly before adding the nut and tightening. Attach the long end of the 'L' to the boom using a clamp.
11. Turn the antenna up the right way and bend the cone radials down at 60° from horizontal. A 60° slope means that the end of the radial is half the radial's length out from the boom.  
For example, if the lowest design frequency is 144 MHz, the wavelength is 2.083m,  $\frac{1}{4}\lambda$  is 0.521m. This means the cone radials are 52cm long and the ends should be 26cm out from the boom.
12. The coaxial cable (50 ohm) can be run up along the boom and attached to the tags on the rings, the centre conductor attached to the disc and the braid attaches to the cone.
13. To protect it from the weather you can cut slots in the lid from a spray-

can and fit it over the top like a cap, then use tape to fix it in place.

Because the discone has a wide bandwidth, precise measurements to the  $n^{\text{th}}$  degree are not critical. It is relatively simple to design and construct, and inexpensive to model using wire before constructing a more robust antenna out of tubing or other material.

## Alignment and adjustment

Before putting it up on your roof, mast or whatever, you can check the SWR and frequency of your discone and adjust it by changing the angle of the cone radials or trimming the radial lengths, but you can generally be fairly sure that it will perform well enough by working to the measurements.

## Summary

There is nothing fancy about this design which I simplified from some of the more complex construction methods I have seen and it works well, giving a good signal on 2 metres.

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# Silent Key

## Geoff West VK2BT

It is with great regret that The Manly-Warringah Radio Society records the passing of Geoff West VK2BT. He was 76. Born at the time when shortwave broadcasting was just beginning, throughout his life Geoff maintained an interest in amateur radio. His workshop was an Aladdin's Cave, reflecting the extraordinary era of radio development through which he had lived.

In 1941, during World War II, he raised his age from 16 to 18 and joined the Merchant Navy. After the Japanese attack on Pearl Harbour (Dec. 7<sup>th</sup>, 1941) Geoff was on a ship that was sent from Australia to Pearl Harbour to assist the Americans in the evacuation of women and children to the United States. Fires were still burning when his ship arrived and there was anxiety about the fact that no one knew the whereabouts of the Japanese fleet. Geoff did a second trip from Pearl Harbour to the US and continued to serve in the Merchant Navy for a few years after the cessation of hostilities.

In 1950 Geoff met his future wife Betty. She was then a bus conductress aboard

the 190 bus route, a well-known trek to the people of the Barrenjoey Peninsula north of Sydney. In the space of three months Betty and Geoff were married, a marriage that during its 51 years brought them four boys and a girl and the blessing of grandchildren.

In 1994 he gained his first call as VK2MOF which spurred him on to learn CW and get a full call. For anyone of his age that was no mean achievement but Geoff had a particularly strong characteristic – tenaciousness. In this case it paid off handsomely and he became the proud owner of the full call VK2ADW. Later, in 1998, he changed this to VK2BT thus becoming a member of the elite of call holders – those with two letters after the digit.

Geoff sometimes said that his only regret was that he didn't become a ham earlier. He equated being a ham with holding a call but Geoff had always been a ham and a first class one at that. When he built something he built it properly. With the Merchant Service he worked in the engine room and it was within

that environment that he developed his superb craftsmanship. Witnesses to this are the excellent QRP transceivers and hand keys that he built, two of those keys now in permanent use by the Society.

Geoff spent his working life in the hardware trade, acquiring a formidable expertise in plumbing and plumbing parts. Despite the ups and downs of the economy he was never out of work and until his late sixties he enjoyed excellent health. He and Betty retired to the Central Coast where he joined the Westlakes Amateur Radio Club.

Then, in 1992, Geoff had a quadruple bypass after which he took things more quietly. In order to be close to a hospital and family, he and Betty moved back to Sydney and settled in Narrabeen, which was when he joined the Manly-Warringah Radio Society. It was rare for him to miss a Society meeting and at 1630 every day he was a regular on Westlakes' 40-metre 'Footloose' net (7070 kHz).

To Betty and family the Society offers its deepest sympathy. Geoff will be sadly missed.

**Bob Hawksley VK2GRY**

# A Field Day or Emergency Portable Mast for VHF & UHF Antennas

Keith Gooley VK50Q

If you start doing any field day or emergency portable operating on VHF or UHF, you soon find the need for a small lightweight mast that can be carried to the hilltop site and quickly erected. The mast provides support for 2 m, 70 cm and higher beams giving a useful gain increase over the basic vertical antennas used on these bands. Other desirable attributes of such a mast are that it should allow easy rotation of the beams but should provide a means of locking the antennas in the desired direction. Otherwise it is certain that a breeze will spring up in these exposed places and will always want to turn the beams to a direction other than that desired.

I went on a couple of field excursions and soon discovered that such a mast was required. While thinking over the problem of how to make it, I hit upon the idea of using the not-often-used

projector stand. It was no good cannibalising the stand and making a dedicated support for the mast as I sometimes use the stand for a slide projector or very occasionally dust off the old 8 mm projector to have a nostalgic look at 8 mm movies. No, they are not all on VHS tapes. So I need to keep the projector stand in a form that it can be used for its original purpose but at the same time provide support for a short mast.

The photographs and diagram give the general idea. Materials and dimensions are basically as a result of

what I had on hand and can be adapted to whatever you have. A 30 mm hole was cut in the centre of the tilting tray of the projector stand with a hole saw. The bolt that clamps the tray in the selected position is removed when the stand is required for mast support duty. This allows a 1.8 m length of 25 mm OD aluminium tube to be slid down the centre support tube of the projector stand and rest on the rivet that goes across the tube at the bottom. This rivet holds the bracket that anchors the leg stays to the centre tube.

So, now we have the aluminium mast section supported in the projector stand with the tray free to flop up and down. I found it very useful to hold the tray horizontal to act as a support for small transceivers and even a gel battery. After a false start or two, I came up with the



Photo 1

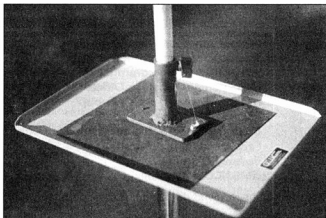
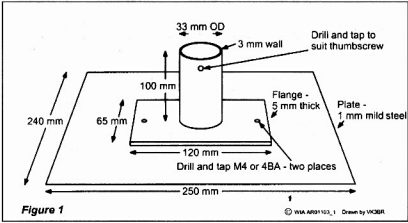


Photo 2

method shown in the photographs. A 100 mm section of pipe that is a loose fit over the aluminium mast is welded to a piece of 5 mm steel bar about 120 by 65 mm. Onto this flange is screwed a larger, thinner plate just smaller than the tray. When the mast is passed through this assembly and the plate rests on the tray, the tray is held horizontal. The mast can be prevented from turning by a thumbscrew in a threaded hole in the section of pipe. The pipe-flange assembly can't turn on the tray due to the turned up lip around the edge of the tray.

A broom handle was filed down at one end to make it a push fit into the top of the aluminium mast giving more height. Being of non-conducting material, a vertically polarised 2 m Yagi can be mounted on the mast without interfering with the pattern of the antenna. A vertical slot was cut in the top of the aluminium mast and a screw put into the broom handle so that with the broom handle fitted to the mast, the screw in



the slot prevents the broom handle turning in the aluminium tube.

### Conclusion

This is a simple lightweight mast to be used for supporting small VHF and UHF

beam antennas in a field-portable or emergency situation. It uses an existing commercial projector stand as the basic support without any detrimental effect on the projector stand's original use.

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## Federal WIA Convention

### Appointment to Federal Positions



The WIA Federal Convention and Annual General Meeting of the WIA will be held in Melbourne on 17, 18 & 19 May 2002

At this meeting, a number of positions will be filled. Nominations from interested persons must be received by the Federal Secretary at the registered office of WIA Federal in Melbourne no later than close of business on 5<sup>th</sup> April 2002.

The positions are  
**President**  
**Directors (3 positions to be filled)**  
**Company Secretary**

**Editor "Amateur Radio" magazine**  
**Publications Committee (5 positions)**  
**WIA/ACA Liaison Committee (3 positions)**  
**IARU Region III Liaison Officer**  
**ITU Conference & Study Group**  
**Federal Web Page Coordinator**  
**Chairman Federal Technical Advisory Committee**  
**Federal Education Coordinator**  
**Federal Historian**  
**AMSAT Coordinator**

**Intruder Watch Coordinator**  
**Federal Contest Coordinator**  
**Federal Awards Manager**  
**Federal WICEN Coordinator**  
**International Travel Host**  
**ARDF Coordinator**  
**Federal QSL Manager**  
**VK9/VK0 QSL Bureau**  
**QSL Collection Curator**  
**Videotape Coordinator**

Nominations received direct will be considered but preference is likely to be given to Divisional nominees  
**Peter J. Naish VK2BPN**  
**Federal Secretary**

# LANGKAWI AS-058

## A Holiday Soiree

Johnny Melvin G3LIV.

johnny@melvin.com www.g3liv.co.uk

During the winter months of 1997 thoughts turned to holidays and where I could play radio at the same time. 1995 had seen two weeks in Cyprus with a TS 50 and a quarterwave vertical for 20 m and great fun it was, just grab your \*CEPT, ask the hotel if its OK and away you go. Yes it really is as easy as that.



John and Nerio

However thoughts on the Far East and places outside the CEPT license area seemed to draw my interest. I had in 1994 holidayed in Thailand, Penang, and Bali but without a radio. This time I thought I'd go for it. Would it be Singapore, Thailand or Malaysia? A check with the XYL on dates and June was decided on, mention of taking a rig (I have a FT900CAT) brought a favourable comment. So off I started in late December with letters to the authorities in 9V1 - 9M2 - and the Radio Amateur Society of Thailand (no license authority listed in RSGB info)

As I had not read any magazine articles on obtaining a licence for the far east, various phone calls were made in the UK, however not a lot of information was gained from this avenue, until I managed to get hold of Ray G3NOM, he was a great help from day one. Although I had not settled on which countries to visit, a quick look at the wanted island list in the IOTA Directory led me to Langkawi AS-058 in Malaysia and Phuket AS-053 in Thailand. This was where Ray really excelled; he had a spare copy of the Malaysian license application form here

for you application paperwork. By the way it costs 1 Ringet which is about 25cents USA. I have been informed that it is possible to present the paper work personally at the centre and have it dealt with in a couple of days. See address later.

I should at this juncture explain where Langkawi is situated. Langkawi comprises a group of 99 tropical islands lying off the northwestern coast of Peninsular Malaysia, the main island is known as Pulau Langkawi. For the more informed the exact position of the group is 05.5-06.5N 99-100E for IOTA it is AS 058 Perlis/Kedah State Group. It is located north of the Island of Pinang and south of the island of Phuket in Thailand. This group of islands is blessed with an intriguing heritage of fabulous myths and legends of ogres and gigantic birds, warriors and fairy princesses, battles and romance. With a geological history dating back 500 million odd years, the islands contain unique rock formations that stir the imagination and baffle the mind.

Now back to the main plot.

Requirements to accompany the application were,

in the UK. This was posted to me and now the hunt started. I should state here that the application form did arrive from the Malaysian authorities but not until some time in Feb taking about 8 weeks or so. My advice is if you are even only thinking about going out but have not decided on dates then get your request in

Application Form, Full equipment information, Serial Numbers, Power, Modes, Bands.

Copy of current UK license or country of residence. Copy of main Passport pages.

Completion of Wireless Security Declaration signed.

2 Character references (Now you find out who your friends are)

Sketch of antennas to be used.

All this has now to be bundled up and sent to the authorities in KL.

Was this the first step by Malaysian officials I asked myself, to discourage the faint hearted? However Geordies are made of sterner stuff. (Geordies is the local term for the inhabitants of Newcastle upon Tyne, my QTH.) At this point enter Ray G3NOM once again, who informs me that he is going on the 9MOC expedition to Layang Layang and would I like him to deal with my application while in KL en route. Not one to look a gift horse (nothing personnel Ray) in the mouth his offer was immediately accepted and all posted to his UK address. (He's now moved to Bangkok full time).

This was now late Jan 98 and the weeks are going by at an alarming rate. Reply from 9V1 Singapore " We regret to inform you that we do not issue a license to foreigners to operate amateur station while they are in Singapore for a short period, one must be resident for a minimum of three months before making an application ". I had inquired in my letter if it was permissible to land at customs with a rig in the bag. However this was not answered. So rule out Singapore.

Now a letter from Thida the General Secretary, of the Thailand Radio Society in Bangkok. This was not good news, pointing out much like Singapore that a minimum period must be completed before a license would be issued, however it would seem that you also

need a separate piece of paper to give you permission as to where you may transmit from. Thida also indicated that it was not in ones best interest to have equipment in your ownership without declaring it to customs. I am told you can leave it with them and recollect when leaving the country. I decided not to put this to the test.

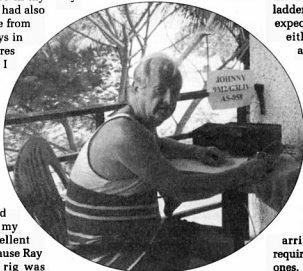
At this time an email from G3NOM to let me know that the Malaysian license was OK and I could plan ahead at least for 9M2/G3LIV from Langkawi AS-058. Now I had a problem, I was to land at KL have 4 days to get over the near 24hrs travelling from Newcastle, then on to Langkawi for 10 days. No problem so far, however how do I get to land in Phuket, Thailand with a FT900 in my flight bag and no license and I had also decided to break the trip home from Thailand by stopping for 6 days in Dubai. As I had made no enquiries regarding amateur radio there I did not know the lie of the land. If you understand what I mean.

White knight to rescue, by this I mean again G3NOM, who happens to be the holder of the HB9DX FT900 owned by the RSGB IOTA bunch. Would I like to collect it in KL take it to Langkawi have my 10 days on the island and just return it, and go on my way to Phuket, what an excellent idea. This was agreed and because Ray was in UK again the IOTA rig was temporally located with Zainal 9M2ZA in KL. After a bit of email shuffling all was arranged for the pick up. Now enter hiccup, in the heat of all the moving between London/Bangkok/ KL/ and the Spratly 9M0C location Ray had left the receipt for my successful application for 9M2 license in his Bangkok flat and he was in UK.

My original hope had been that some weeks before I was to fly out the license would be posted from the authorities to my home QTH, so I emailed their centre that was handling the license explaining that the receipt was in Bangkok and I had noway of getting it to confirm the receipt number and could they indicate that the license would be dispatched in due course. Three weeks no reply, I then faxed a copy of the email with an urgent heading, but still no reply and I was leaving in 5 days.!!! Ray during this period stayed quite calm (indicating his

vast experience in these matters) and pointed out to me that he never really expected a reply, and in a very cool manner suggested that I just called at the centre and picked it up. So that was the decision as I left UK, but I thought I should pick up the paperwork before I got a taxi to Zainal for the rig. Taxi dropped me at the centre, I said who I was to the young lady behind the counter, expecting a list of questions, when all she said was "Yes, Mr Melvin, license for Langkawi, have a nice holiday" and handed me a buff envelope.

I was back on the pavement in less than 5 mins with my Licence. I hopped into a very cheap taxi and returned to my hotel.



John Melvin G3LIV

Totally forgetting I had intended to purchase (yes purchase) a number of application forms to be located with the RSGB so as to shorten the waiting period for pilgrims that may follow in my footsteps. The cost of the form is only about 15 pence each, about 25 cents USA.

A quick phone call to 9M2ZA and off we went in a taxi to pick up the Yaesu FT900AT and other bits and pieces. His home was found with no problems and very nice it is with a mass of jungle type greenery around it and a mast, I think he said about 20m if required with a Tri bander on top. Whilst his XYL was on other business she had left a plate of banana fritters, which went down very well. As I mentioned Zainal and I had exchanged some emails and one surprise

that ensued only 10 days before I left was that there was no power supply located with the rig. I had a switch mode so took that with me. Keith GM4YXI had been using the rig the previous month and had left 25m of coax with a PL259 on one end. As the antennas I was taking needed a double ended PL259 cable it was necessary for me to carry the tools etc to add the plug. In the spell I had in 5B4 I had devised a 20m quarter wave ground plane, which broke down into 28 inch lengths, this fitted diagonally in my suit case. I had also made a dual band 20/17 m dipole. Whilst making this I had no luck getting standard figure 8 cable to work as the elements, alar the antenna hand books, However as soon as I made the dual dipole out of 300 ohm black ladder type feeder it worked as I had expected and I could switch between either band with under 2.1 SWR across both bands with just the one coax feed. This became my main antenna at Langkawi, as to the GP; the roofs on the hotels seem to be standard sloping tiled as in UK, not flat as in Spain etc. So because of the heavy rainfall in the wet season the roofs tend to extend over the balconies, in my case by about 2 m this did not allow me to erect the vertical from either balcony during my stay.

I had written to the hotel prior to arriving and mentioned my requirements. You know the standard ones. A room in the upper floors with access to the roof, as well as 20m palm trees about 10 m from my balcony and 15m apart, in the clear with a member of the staff who is trained as a steeplejack or even Jill. However to my surprise they had located me in a suite of rooms with two balconies at no extra charge. There were trees outside, which allowed me to locate the dipole in a flat top position. However it was found after some playing around that I was doing better when it was situated in a more inverted V formation.

Operating in this area of the world seems totally different to my previous experiences. In my location there was virtually no propagation during the day. The bands 20/17/15 m did not start to be useable until around 2200 local time; this is 8hrs ahead of UTC. 80 and 40m were just a blur of static and were not seriously investigated. While I was in 5B4 I just had to drop the key and within

minutes I would have the pack calling. However now it seemed to be different. Conditions were on the whole pretty poor for the duration of the stay. I was to be there 10 nights. First one was unpacking and the usual lets get a meal and a sit down. 3 of the next few days had electrical storms all late evening to early morning and it would have been a waste of time to even fire the rig up. It was also noted that the mains voltage was obviously down over UK standards and my PSU would only power the FT900 to about 60 watts before closing down. Therefore most of the operating was after 2200 with the band been open for say 45mins when I would have a good run of QSOs. Then the band would just die with only one or two stations audible, then after an hour or so come to life again. Lots of CQs did not seem to attract a lot of interest and this from 9M2 in AS-058. However over the period of operation some 800 contacts were made, my key speed went up as did my direct logging into the book, sorry no room for a computer. Wife had insisted that I had at least one extra pair of socks and underpants in my case. It was a tight call. Most stations were in mid Europe, some Gs and the odd W but lots of JAs and the like. Interesting enough a W6 or 7 would call with a good signal and I thought that OK now for a W pileup but no luck there would be 2 or 3 then no more, yet I was getting good reports. Only 3 VK stations were worked VK2BJ VK7BC VK8XC.

I had a number of QSOs with John GM4DKO/DU3 he is working out there for 18 months and over the days I could hear him calling CQ and not getting many takers. It made ME feel better Hi. The first G to be worked was G3JDT followed by G3LVP but Gs counted for only about 2% of contacts. Plenty of the U area with quite a lot of signals with less than T9 notes. I must comment on the JA stations that are a pleasure to work, and conduct themselves like gentlemen. It was nice to be called by a KH2 and an XE both all time new ones for me. Pity they don't count for my G DXCC. One evening was lost, I admit to going to an island about 40 miles off the mainland where a dive platform is located, to try my hand at snorkelling. I did manage OK and the view was spectacular however the sea was rough and after an hour of bobbing up and down, I just wanted to be buried at sea.

Never again.

Last night of the 10 was pack up time so no operating, we were leaving at 0330 for the return flight to KL, as my arrival there was in the middle of the rush hour and I could not make it to Zainals to return the rig he had agreed to come to the airport. Thanks again Zainal. The QSL cards are now under production and ALL contacts will be sent a card.

According to local folklore, Langkawi derived its name from the eagle or "Lang, short for "helang". In old Malay "Kawi" denotes "reddish brown," hence Langkawi means "reddish brown eagle". Situated near Kuah Jetty in Langkawi there is a giant statue of this eagle, now I mean GIANT with a wingspan of 23m and a height of 14m without the base, which is an additional 6m. The feathered version can regularly be seen soaring over the island. This is the main theme of the QSL card.

We were now off to Phuket in Thailand, no rig, nice island, my room was over a sea water lagoon which was crying out for an antenna. But no license!!!!. I had a few weeks prior worked Nerio HSO/IK4MRH on 15m SSB and had arranged to meet him while on the island. A call to him, resulted in him picking us up, and heading for the hills where his home is situated, very nice it is to. Nerio is a big very friendly Italian gentleman. The jungle comes up to his back wall. There is a nice 17m tower with a 4 el on the top. He runs a TS850, which looks quite old, but it turns out that the problem is condensation on the metalwork, which rusts very quickly. On thing that was obvious was the hand engraved customs numbers spread right across the top of the front panel? This is a requirement it would seem. He was running a Linear until quite recently but it would appear that he had left it in by mistake on 40 where he has a bit of TVI but this time it was been picked up by the audio amp in the local mosque. The authorities were at his QTH the next day. Linear now in bedroom wardrobe. Better safe I think is the motto. Nerio mentioned that there were only approx only 100 HF licenses in Thailand, not sure how firm that info is, but I don't hear many. The visit was another welcoming side to amateur radio. Thank you Newry, your coffee was fine by the way.

Well that about covers the 9M2 jaunt. Would I do it again? Of course I would

its unbelievable the thrill when the world wants YOU an ordinary G. One point I would like to, raise for the future is the FT900 in 9M2, it is still in its original Yaesu cardboard packing, could we who are interested in IOTA raise the cash needed and have it fitted into some kind of photographers type case, this also to include switch mode PSU. This would really simplify its portability and help I'm sure the one man DX-expedition. I would donate if the IOTA committee got a fund going.

I am OK in the Callbook over the last 16years if I can be of any help to you then please give me a call 0191 2843028.

As a postscript to this original trip I have made a trip to Penang AS 015. Operation took place 4th May to 24th May 1999. So if you worked me, you will get a QSL card 100%. Remember me saying I did intend to pick up some application forms for future years. Well I needed one myself again this year.

So no one to blame but myself.

## Address for Malaysian Amateur Licence

Surahjanjaya Komunika dan Multimedia Malaysia.

Malaysian Communications and

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Tel: +60 3 294-2121.

Fax: +60 3 294 0908.

[www.cmc.gov.my](http://www.cmc.gov.my).

Application Fee RM60 per application.

License will usually be allocated for 3 months. It would seem that receipt for the Fee indicates permission to transmit. I am told it is now possible to download the application form from the web page (November 2001)

One final final, thank you Ray G3NOM with out whose help this trip would not have been possible. Thanks to Yaesu for sponsoring my QSL cards and supplying the logs, may their valued input to IOTA continue.

Good luck and give it a try its great fun.

73s de Johnny Melvin G3LIV.

\*CEPT... European Conference of Postal and Telecommunications Administrations.

Recommendation T/R 61-01. Means that in Europe or indeed the USA, we have no need to apply for temporary license. Just hold a valid license for our country of residence and permission is automatic.

# Ve haff vays of making you **TOCK**

## An encounter with an intercontinental clock and an incontinent battery



Mike Krochmal VK3KRO

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[www.autoscan.com.au/~autoscan](http://www.autoscan.com.au/~autoscan)

Having been born in Germany, I just could not resist the title. Here's how I fixed a sticky problem in a clock:

### The problem:

Having bought a lovely old Kenwood clock from what I thought to be a reputable source (for what would otherwise have been a high but not totally unreasonable price), I was dismayed to find when I unpacked it that

the battery terminals were in an advanced state of corrosion (see Photo 1). To add to the problem, this clock's battery compartment is an integral component of its mechanism, as it often is in the clock drives, as these days they can be obtained as an individual item. This meant that I could not just toss out

the old battery compartment and replace it with a new one. It's also important to remember that battery contacts must be springy (to maintain good contact with the battery at all times) and should be made

of a low-resistance material. This rules out some simple replacement solutions. To make things worse, the battery contacts in this compartment needed to fit down a narrow slot, and I did not want to drill into the plastic of the original compartment in the process of fitting new contacts. It seems that this particular style of battery compartment was quite common at the time, and so the following is a description of how I fixed the problem, written in the hope that it may assist others in a similar situation. In my experience, batteries in clocks are seldom checked for health unless the clock actually stops – by which time it is often too late.

### The cause:

It has always been a mystery to me how to best get rid of the muck left behind when a primary cell leaks. The stuff seems to be neither necessarily acid nor alkaline, so I have never had much luck with neutralisation by the application of the opposite (lemon juice or vinegar as acids, or soda bicarb as alkaline). Ordinarily, if you do this, you would see some fizzing as the acid and alkali neutralise each other, and produce water and gas. I've had no such luck with the stuff that comes out of batteries. I did speak about this with a very helpful man at Union Carbide many years ago. He suggested that the leakage can be either or both (alkaline and acidic), depending on the battery chemistry and circumstances, and the best strategy is to dilute (with lots and lots of water) rather than neutralise. He also

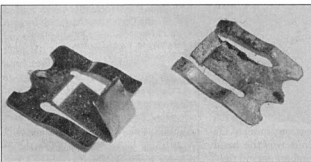


Photo 1. Corroded battery clips

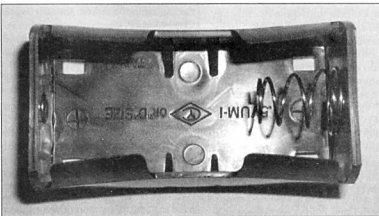


Photo 2. New battery clip, prior to disassembly



mentioned that the brown stain, which is often seen, is the result of the electrolytes attacking the end-seal cap of the battery, and that this could often be eradicated by use of a proprietary rust and stain remover.

Over the years, I have accumulated a fairly sizeable collection of articles about batteries. However, they all seem to want to talk about performance. None of them discusses leakage and how to remedy it. The same goes for the Internet – there is an amazing lack of information on this subject. The search for good information continues.

## The solution:

The clip used in the clock is of a type seen fairly commonly. In this case, one "D"-cell was used, but my remedy can be used equally effectively for other cell sizes and numbers. I purchased a single "D"-cell battery clip at one of our major electronic component suppliers (see Photo 2), and used a soldering iron to melt the metal contacts out of the plastic housing. This was quite a simple, if smelly, operation. The next step was to make some plates to hold these contacts in the existing battery holder. I happened to have some 1 mm brass sheet to hand, and I used a pair of tin snips to cut two pieces, which would just fit, down the slots of the battery compartment. It helps to run a file over the edges, and round the corners, in order to avoid cut fingers from the sharp edges. I measured the location where the centre of the battery would end up, and in this location I drilled a 9/64 (3.5 mm) hole in each brass piece. For each side, I then inserted a 1/8 inch (3 mm) rivet through the brass piece and into the contact scavenged from the new holder (see Photo 3). In the case of the positive contact (as can be seen in the photo), I had to place the finished assembly into a vice and flatten it, as the head of the rivet was a bit too high and made insertion of the battery difficult. As it was, I had to force the new contacts down the grooves a little bit, but in this case everything worked out fine. However, care should be taken not to apply too much force during this operation, in order to avoid cracking the plastic battery housing, which is being repaired. It may be necessary to file down the rivet head on the outside of the brass piece to reduce the amount of mechanical interference.

## The result:

Voila! A fully functional battery housing! (See Photo 4) With the expenditure of just a couple of dollars and an hours' worth of work, the little aeroplane on the "second hand second hand" of my good old 24-hour movement Kenwood hamclock is once again merrily going round and round. Keeps good time, too!

Thanks (I think) go to Peter, VK3YE, for dobbing me in for this article.

ar

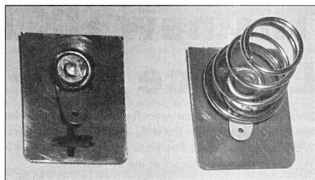


Photo 3. Brass plate assemblies, with new contacts

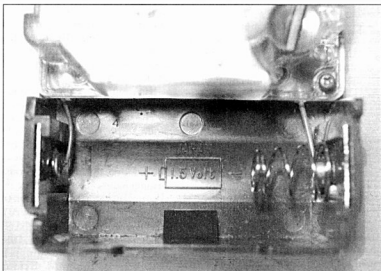


Photo 4. New contacts in situ

VK3GH **HAMFEST** VK3GHA

**Sunday 25th February**

**10am to 2pm**

**Healesville Memorial Hall**

**Maroondah Highway, Healesville (Melways 278 C1)**



**For further information:**

Gavin VK3TLN 5968 8482  
Carol 5962 6098

*Bring your family—you can also visit Healesville's famous tourist spots*

# The new UK Foundation Licence

By David A. Pilley VK2AYD  
davpil@midcoast.com.au

For more than a hundred years Radio Amateurs have been in the forefront of developments in telecommunications. In the U.K., the RSGB, in collaboration with the Radio Authority (RA), have agreed that it is in the national interest that access to amateur radio be improved so that Radio Amateurs can continue to play a key role in the technologies of the 21<sup>st</sup> century.

'Radio is once again at the cutting edge of progress', David Hendon, CEO Radiocommunications Agency (RA), 2000.

In such a future amateur radio offers:

- A great potential for innovation in radio communications;
- A way of drawing people into a technical activity that can result in them pursuing a career in engineering, so enhancing the technical skills of the country;
- A source of emergency communication skills at times when conventional communication links are strained or out of action;
- A contribution to international friendship; and
- A rewarding and challenging leisure activity which is open to all ages.

The decline in the numbers taking the traditional UK radio amateur examination underlined the need to take action. With the expected relaxation in the Morse Code requirement for HF access it was decided that the time was right for a much more radical review of the amateur radio examination system. As Richard Horton, G3XWH, commented at the time, "It is easier to obtain a pilot's licence for a light aircraft than an amateur radio licence". Indeed

it was possible to obtain a UK amateur licence without ever having listened on a short wave receiver!

It was decided that any new licence had to be focused on the need for a person to show they would be a safe and competent operator. This implied practical 'on the air' experience being a part of the new licence and more attention to training rather than being able to answer questions in a traditional examination.

Last September the first stage of the new licence was announced. It is envisaged that there will be three levels, Foundation, Intermediate and Full and that through self and formal training a radio amateur will progress from Foundation to Full. Some transitional arrangements have been put in place, upgrading the M5 licence to Full, rationalising the current Novice Licence and improving the privileges recognising the probability of the Morse code requirement being dropped.

But it is the new licence, the "Foundation Licence" which has attracted the attention.

This licence provides access to most of the amateur bands (all HF except for the 10m band) and restricts licencees to a maximum power of 10 watts output. Transmitting equipment has to be commercially manufactured, or be a

properly designed and constructed commercial kit. There are few other restrictions.

The intention is that the Foundation Licence course will be the route into amateur radio. The course can be given by any Full Licence radio amateur and involves a little radio theory, some safety and EMC practice. About 12 hours of the course is envisaged and it can be taken over a weekend. The innovations come in the practical side, candidates have to make both HF and VHF live QSOs on air as part of the course. They have to show they can tune up an ATU and set up an HF transceiver correctly as well as use the correct operating procedure. And they have to take a Morse assessment.

## Why Morse?

The RSGB and the RA believe that Morse is a highly relevant mode for radio amateurs, especially for QRP and spectrum efficiency. The Morse Assessment is a short practical appreciation course. Candidates have to copy and send a short (20-30 letter) piece of text which is sent slowly to them. They have a crib sheet and can write it down in dots and dashes if they wish. However they do have to copy the text correctly. But repeats are given until they do! Finally candidates have to answer



Three of the first holders of the Morse Assessment completion certificates



The first class at Colchester with the course instructors

20 questions on the course content, and get 15 right. The results are given to the candidates immediately at the end of the course and they are given the documentation to apply for their new licence right away.

Many Class B (VHF only) licencees have taken the opportunity to acquire this new licence to open up their operating capabilities on HF. All that was necessary for them, was to take the Morse Assessment and by 7th November over 40 Class B Radio Amateurs had taken the test at the RSGB HQ.

According to the RSGB January "RadCom", at the first pilot run weekend course at Colchester, England, fifteen candidates ranging in age from 11 upwards, passed and now have the new "M3xxx" call. (Have you worked one yet? - First M3-VK QSO?)

As Bob Whelan, G3PJT, President of the RSGB points out, "We are engaged

in a strategy to reposition amateur radio as a relevant, exciting, demanding and socially valuable technological pastime. Amateur radio's biggest enemy is apathy. We intend to use the new Foundation Licence to rejuvenate clubs, to spearhead a schools educational programme, and with our new demonstration vehicle, GB4FUN, to improve radically the public appreciation of amateur radio."

The RSGB has produced a booklet called "Foundation Licence Now!" by Alan Betts, G0HIQ, which is available from the RSGB bookshop. More information can be obtained from the RSGB web site at [www.rsgb.org](http://www.rsgb.org) and look out for a new dedicated website for Foundation Licence. The RSGB has complete packages of material for all aspects of the course. The procedures have been tested in a 3 month pilot. It all seemed to work. The examination

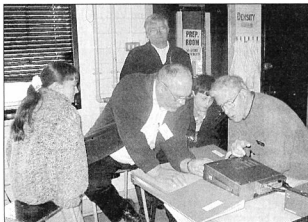
questions are computer generated and will in the longer term be available to authorised amateurs via a website. No delays in taking the examination at the end of the course and re-sits are allowed.

And they have kept the cost down, the target course cost is £10 per candidate. The book is only £3.99.

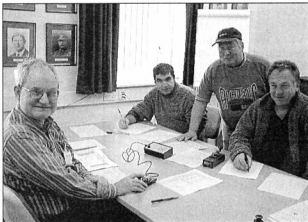
As a post script, the RSGB advised that at January 7, 600 new M3 Foundation Licencees had been issued. On January 1 the RSGB organised a QSO party and it was estimated about 100 M3 stations were active.

But the most telling fact is that there is a new mood afoot. Positive comments from clubs and individuals calling into help. Over 80 clubs and 40 schools are raring to get started. The challenge is to turn this enthusiasm into new amateur activity and a life long interest in the greatest of all pastimes.

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A hands-on demonstration of amateur radio in action as part of the Foundation course. Students listening to HF.



Bob Whelan G3PJT, President of RSGB (left) at the first pilot Foundation Licence Morse Assessment session at RSGB HQ.

**Bass Amateur Radio IRLP Group, Rosebud, Victoria**

# HAMFEST

**Saturday, 30 March  
10am to 2pm**

**Boneo Cricket Club Grounds,  
Cnr Boneo Rd and Limestone Rd, Boneo**

**Booking of trestles and further info:  
Graham VK3JBO 03 5982 0315**

**More details in March AR**

## New WIA Members

The WIA bids a warm welcome to the following new members who were entered into the WIA Membership Register during the month of DECEMBER.

VK2BRY	MR R YEATS
VK2UW	MR W WRIGHT
VK3ALX	MR T ALEXANDER
VK3FDX	MR P WOLF
VK3HZ	MR D SMITH
VK3JNK	MR D MADISON
VK3PA	MR A GREENING
VK3TUA	MR A BOYD
VK4AKI	MR K JONES
VK4BRV	MR R R VIJUMA
VK4CE	MR J R SIMPLE
VK4EZ	MR R D SIVYER
VK4JL	MR J E TUCKER
VK4KIN	MR J ELLIOT
VK4LNZ	MR B L SHOObERT
VK4YKR	MR P A GREGORY
VK7CS	MR A SZOPKO
VK7NJD	MR J DOOLAN

## What a strange new year it was...

This Festive season has illustrated to us all what a diverse country we have. The terrible bushfires (following a pretty terrible storm) in VK2 have reminded us all how easily our beautiful bushland can become a fearsome place to be. Our sympathy goes out to everyone who has suffered the loss of a home or who has courageously helped to save many more homes (yes, we have a number of YL members who are also volunteer firefighters of whom we are justly proud).

At the same time as these fires, the VK4s were enduring a drought and longing for rain, while the VK3s and VK5s were complaining about the continued cold weather after a mild but wet winter.

As members of ALARA and participants in the Monday night nets we hear about the weather from one end of the country to the other, each week.

Why not join us? All YLs are welcome, not only members. If you do not have a licence but your OM does, he can call into the net and then pass the mike over to you while he stays in the shack to make it legal. It is interesting to hear what people across the country are doing and to "meet" their families in the process.

We use 3.580+/- from 1000 Zulu once we move into Daylight Saving, and 1030 Zulu under winter times.

### News of members

Poppy VK6YF and Sally VK4SHE have both settled into their new homes but neither of them has yet got suitable aerials in the air so we miss them from out nets.

Both Poppy and Bev VK6DE have braved the new world of computers so we soon will be able to add them to our email lists. There is a lot to learn and many new friends to meet when you sit at your keyboard but computers can also be terrible time-wasters, so be warned.

### Our hobbies often overlap

We all know about Marilyn VK3DMS and her "Radiomania" stamps and how well she has done in competitions, but in researching the genealogy of my family there has been an overlap into things related to radio.

I have known for many years that my OM's grandfather was an operator on the Overland Telegraph as was his brother but I was astonished to discover recently that one of my own ancestors was also involved in the telegraph.

She was the schoolmistress for the Mount Pleasant area (in the Adelaide Hills area) when the telegraph was connected to the town. She must have

known Morse Code because she was the person who received and sent the first messages in Mount Pleasant in 1862. It was less of a surprise to read that some of my ancestors had bred horses used in building the telegraph lines. I should think there were many people involved in horse breeding in those days.

### Luncheons

Do remember that at least three states have regular luncheons each month. All of them welcome interstate visitors, with or without warning!

In VK3 and VK5 the luncheons are on the second Friday of the month and in VK6 they are held on the last Thursday of the month.

In VK3 the lunches are at the "Vista Café" in Little Collins Street, starting at 1130 or thereabouts. In VK5 they are "Bertie's Pancake Kitchen" downstairs of the Southern Cross arcade in King William Street and start at 1200.

In VK6 the luncheon is in the "Park Hotel" in North Perth at 1200.

All the venues are easy to find so please come along.

In VK6 there is usually a table nearby for the OM's, while in VK5 there is a luncheon at the Blackwood RSL of members of AHARS which a number of ALARA OM's attend on the same day.

### Don't forget the two YL meets in 2002

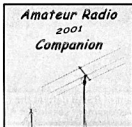
If you are in Europe in June, there is an International YL Meet in Palermo. If you are touring Australia please add Murray Bridge to your itinerary at the beginning of October.

Both meetings will be great fun for the YLs and the OM's so make sure you don't miss them.

Look back in this column or in the ALARA Newsletter for more information about both gatherings if you think there is any chance you will be there.

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## Summerland Amateur Radio Club

Chris Meagher VK2LCD Publicity Officer SARC

December 12 marked the centenary of Marconi's first transatlantic morse transmission and the local ABC asked if the club could help a with some old radios to add to the ABC's small collection, for a small display.

Our industrious members went much further and transformed the foyer of the Lismore studios into an extensive exhibition of AM radios, amateur equipment and historical information on Marconi.

There were frequent on-air 'promos' which mentioned the club and the display, and on the day, crowds poured in to what was originally envisaged as a small group for morning tea. Martin Corben, local ABC manager, and his staff did a marvelous job escorting groups on mini-tours of the studios, thus relieving pressure on the foyer which was near bursting point!



Close up of the centenary cake before being cut, sorry there's no 'after' picture! Photo: Ian Gray

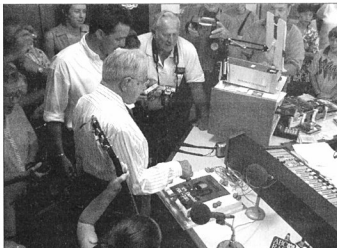
## Adelaide Hills Amateur Radio Society

As usual the December meeting was celebrated with a Christmas dinner. Just under 60 members and families were there to enjoy a most pleasant evening. The food was great and the company was equally enjoyable.

The usual venue for meetings is unavailable to the club during school holidays so the January meeting will be a barbecue at the home of a member; however, in February we will be back at the Blackwood High School on the third Thursday of the month.

If you are in Adelaide on that day, please come along at 7.30 or get in touch with either Geoff VK5TY or Alby VK5TAW for more information. You can be sure the lecture and the company will be interesting.

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Alf Webb, VK2UC cuts the cake, under watchful eye of Martin Corben, ABC manager. Photo: Chris Meagher

The highlight of the event was the cutting of the centenary cake, most expertly carried out by SARC member and Australia's oldest active ham, Alf Webb VK2UC. This was done in the studio packed with excited onlookers, who sang a chorus of "Happy Birthday dear Radio" live to air. The scene was quite extraordinary and one presenter Fiona Wyllie won't forget!

Fiona also interviewed Alf and other club members about amateur radio and it seemed that the hams had indeed stolen the show from Marconi! In the afternoon, school groups visited and learned about the operations of a modern radio studio. The most popular exhibit was a working spark transmitter and many put their fist to the key for the first time.

Thanks to John, VK2JWA for organizing the show and providing gear, Ken VK2AFH, Ian VK2IGS, Leith VK2EA, for radios and historical information from their collections. By the end of the week, over a thousand people had been to see the display, and many thousands more heard about the club and amateur radio via press, radio and TV.

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Visitors at the display. Photo: Chris Meagher

# Spotlight on SWLing

By Robin L. Harwood VK7RH

Firstly I must apologise for the December column not appearing but I know it was sent but the fault may be at this end when I was looking up in my files I got a warning that there were hidden macros embedded in the text. It may not have come out at the editorial desk.

Much of the copy in December was an update on the situation in Afghanistan, including the scoop that I may have been the first person in the World to hear the Psychological Warfare Unit, even beating the prestigious BBC Monitoring Service. However the situation has vastly changed since then. American forces have supported the Afghan factions in overthrowing the Taliban regime and capturing many al-Khayeda terrorists yet Osama Bin Laden has so far eluded capture.

Since the fall of the Taliban regime and the liberation of the major cities, there has been a rush of donor nations eager to restore the damaged radio and television infrastructure. However shortwave broadcasts are yet to resume although the Psyops broadcasts are still continuing. They are still on 8700 kHz USB, probably until the Radio Free Afghanistan operation commences very soon. It was recently approved by the US Congress and signed into law by President Bush and senders will be sent to Kuwait from another location.

## Passport 2002 now available

This is undoubtedly the best short-wave guide available and Larry Magne and his crew has done an excellent job. This 592-

page book not only contains the latest news from the various short-wave broadcasters as well as the very popular receiver review. Also it is good to see photos of various individuals who I know through email contacts. The frequency section is an invaluable aid to identification of the various short-wave broadcasters.

The price to Australia is \$26 US and I know these were ordered in bulk by several sources and have already been delivered. I do not know if they will commercially available locally. More details on Passport 2002 are at <http://www.passband.com>.

## I have moved

Late in October, I moved into a retirement village in Norwood. This has severely curtailed my on-air activities yet I have obtained permission to erect antennas. I am using a very temporary antenna along the curtain rail in my main room and it works but not as well as an outside one. I am hoping to have an outside trap dipole up by now. However HF transmitting is out. I must admit being interested in the comments in the December "AR" of remote operation via the Internet of ham stations. This would be a boon to people in my particular situation. I did have several links to remote receiving locations but have lost these. I seem to remember that the demand to operate these receivers was so high that you could only access the rigs for 30 seconds at a time. Is there anybody with updated links to these remote receivers?

On the 31<sup>st</sup> of December, Radio Norway International ceased to exist, although Norway did not exit shortwave broadcasting. Apparently they now relay domestic programming in the first half-hour until Radio Denmark comes on in the second half-hour. The closure of the external service was caused by a budgetary blowout and as the Danes had signed a contract to utilise the senders within Norway till 2003, they had no choice but to continue with relaying

domestic programming.

Our Time and Frequency station, VNG also may be closing on the 30<sup>th</sup> of June, according to information from overseas monitors. It is also a budgetary decision.

The broadcast that never made it!

December 12<sup>th</sup> was the centenary of the Marconi's transatlantic communications between Poldhu in Cornwall

and St. Johns in Newfoundland. Several events were held throughout the World to commemorate this historic occasion. However the Canadian Broadcasting Corporation, after a huge investment and 18 months planning, had to jettison their special broadcasts because technicians had walked out on strike a few days beforehand as a result of an industrial dispute.

Another non-event was a historic re-enactment of Marconi's achievement with a proposed spark gap transmission from Poldhu to Newfoundland. This was supposed to be on 1700 kHz and many listeners both in the UK, Europe and Newfoundland made the effort but nothing was heard. Apparently they ended up using a mobile phone which picked up the sound of a spark gap and fed it by landline to a Defence Forces Station where the signal was sent by SSB on a much higher frequency to St. Johns where it was supposed to be received on a modern receiver. However they could not hear it allegedly because the background noise from the crowd. Nobody heard the special transmission either at other locations, which makes one wonder if the re-enactment went ahead at all. All was not lost as a Ontario (Canada) ham received special permission to send a spark gap transmission on 3560 kHz at night and the 20 kHz wide signal was heard in the north east United States and Canada.

I now have an email address exclusively for this column. being [vk7rh@wia.org.au](mailto:vk7rh@wia.org.au). Please note that my postal address is now 20/177 Penquite Road, Norwood TAS 7250. 73 de VK7RH

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## Silent Keys

The WIA regrets to announce the recent passing of:-

G (GEOFF) WEST VK2BT

M W (MARTIN) SAUNDERS  
VK3AMV

W G H DANIEL VK3NX

E G (EDWARD) HAFNER VK4AEW

K J (KEVIN) HORAN VK5IT

F (FRED) REID VK7SD

## QSLs

According to the ARRL QSL Manager, N1FOC, since the anthrax scare, there has been a big slowing down of QSL cards passing through the bureau. In 2000 they handled 1,868,895 cards mostly for distribution inside the USA. I've heard a few rumours how some hams are handling QSL cards with the scare still active. One Amateur told me he put all QSL cards received from overseas in the microwave before opening!

## ARRL Study Panel recommends eliminating Novice Bands

On the basis of nearly 5000 survey responses, the ARRL Novice Spectrum Study Committee has recommended that the ARRL petition the FCC to eliminate the Novice CW sub-bands and allow Novice and Technician with Element 1 credit licensees to operate CW on the General 80, 40, 15 and 10-metre CW allocations at up to 200 W output. The panel suggested setting aside portions of those bands for "slow CW operation" to aid new CW operators in enhancing their skills. The committee recommended reforming the current Novice/Tech Plus sub-bands in part to allow expansion of the phone allocations on 80, 40 and 15 metres.

The committee, chaired by ARRL International Affairs Vice President Rod Stafford, W6ROD, has been studying the status and usage of the Novice/Technician Plus HF bands with an eye toward determining what changes to usage of that spectrum might be needed now that the FCC no longer issues new Novice licensees.

The survey offered possible reforming options for each of the bands involved—including no change at all. Generally speaking, the predefined options proposed retaining Extra class CW sub-bands on the affected bands, setting aside expanded CW reserves for all license classes except Technicians lacking Element 1 credit, and dividing the remaining spectrum into expanded

phone segments for General, Advanced and Extra class operators. A guiding principle was that no class of licensees would lose any privileges as a result of reforming.

The committee recommended expanding the phone bands in accordance with the most popular of the survey choices offered—three for 80, 40 and 15 metres and two for 10 metres. Here's a summary:

- On 80 metre, nearly 40% of those responding opted for a plan that would extend the US phone allocation to 3700 kHz, with Extras permitted on the entire sub-band, and with Advanced and General class sub-bands starting at 3725 and 3800 kHz respectively.
- On 40 metre, nearly half of the respondents picked the plan to extend the primary US phone allocation to 7125 kHz, with Extra and Advanced licensees allowed on the entire segment and Generals from 7175 kHz and up.
- On 15 metre, again, nearly half of those responding wanted the US phone allocation extended to 21,175 kHz, with Extras permitted on the entire allocation, and Advanced and General sub-bands beginning at 21,200 and 21,250 kHz respectively.
- On 10 metre—where Novice and Tech Plus licensees already may operate CW, RTTY and data from 28,100 to 28,300 kHz, nearly 55% of the respondents favored a plan to retain the US phone allocation from 28,300 to 29,700 kHz and to extend CW access to Novice/Tech Plus operators to 28,000 kHz, an additional 100 kHz. The current Tech Plus 28,300 to 28,500 kHz phone segment would be retained.

The committee's report says that if the ARRL Board adopts the plan, the League should include any request to the FCC to implement the changes within an omnibus filing encompassing other issues, rather than as a separate petition. Consideration of any necessary ARRL Band Plan changes would follow ultimate FCC approval.

(ARRL Dec Newsletter)

## All-ham crew settling in aboard ISS

For the first time, there's an all-ham crew aboard the International Space Station. The Expedition 4 crew of Commander Yuri Onufrienko, RK3DUO, and flight engineers Dan Bursch, KD5PNU, and Carl Walz, KC5TIE, is settling into the ISS quarters that will be its home for the next six months. Amateur Radio on the International Space Station school contacts already are tentatively set for January and February.

The new Amateur Radio antennas carried into space for the ISS have been stowed for the time being. Current plans call for them to be installed around the perimeter of the Service Module by the Expedition 6 crew. The new antennas will allow future operation from HF to microwave frequencies, once additional ham gear is brought aboard the ISS.

(ARRL Dec Newsletter)

## "Santa Ham" special event a thrill for the younger set

Did you speak to Santa?

Several hams with young children report their kids have enjoyed the thrill of their lives talking with Santa via ham radio. The W6S "Santa's Workshop" special event operation by ARRL member Mickey Hicks, WO6T, in Bakersfield, California, now is in its 30th year of helping to make the season special for youngsters.

"Hats off to WO6T!" enthused Peter Schipelliti, W1DAD, of Atkinson, New Hampshire, who says he bumped into the W6S Santa's Workshop station while he was tuning around on 20 metre the evening of December 19. He awoke daughter, Geena—at age 6 already a seasoned Kid's Day veteran—so she could talk to Santa.

"She had a great time, especially when Santa recited our address and said that he would be coming next week," Schipelliti said. "Santa reinforced some basic values and reminded her that she should share her toys and continue to be good."

Mickey Hicks, 71, says he started his Santa's Workshop as a one-night effort, but he soon realized he needed to expand it. The annual W6S special event now runs for 10 days each Christmas



# Education Notes

Brenda M Edmonds VK3KT  
WIA Federal Education Co-ordinator

## Examination review

By now readers will be aware that the *WIA Exam Service* is undergoing a review of its processes and procedures. An Audit of the Service was carried out by agents of the ACA late last year. The report recently to hand makes recommendations as to improvements needed.

The major concern of the ACA was whether or not sufficient processes were in place to prevent any fraud or to identify and deal with any fraud that does occur. The WIA is mindful of the fact that the level of suspected fraud is very low, but has been concerned for some time that suspicions have been hard to follow up, difficult to prove and impossible to prosecute. The WIA has neither the financial resources nor the sufficiently trained staff to take action against the few unorthodox practitioners who see the exams as a source of personal gain.

The good news is that the audit has recommended that the ACA take the responsibility for investigation of any complaints of suspected fraud and, if necessary, follow through up to the stage of prosecution.

The review is also allowing the WIA Exam Service to tidy its lists of accredited examiners. Many of those listed have retired from or lost interest in examining, but have not notified us of their decisions. This causes confusion and bother if their names are given to persons enquiring about exams. It is

hoped that those responding to the invitation to be re-registered as accredited will be those whose interest is still high.

The examination manuals are also under review; to be replaced by a simplified set of instructions to those involved in examinations and checklists for all aspects of the event. The persons administering the exams will be known as "invigilators" rather than examiners, as the "Examiner" is in reality the ACA, with the WIA acting as its agent. ("Invigilator" simply means "person supervising an examination".)

The system is being reorganised around existing clubs. Each club will provide a group of invigilators, with a Group Leader to do the management of arranging the event, the ordering of papers, the invigilation and the return of materials to WIA Exam Service. Of course some allowance must be made for areas remote from existing clubs, and the present system of "remote" examinations will continue with minor modifications.

We do not expect that these modifications will make the

administration of examinations any more difficult or stressful for the invigilators. In fact, it should be easier as the procedures will be spelt out in more detail. It will require a little more attention to detail, and more careful forward planning of the times and dates of events.

I must stress that, while we have leant heavily on the need to address possible fraud and so maintain the integrity and reputation of the WIA Exam Service, our experience over the years has been that the incidence of suspected fraud has been very low. The audit agreed with this view, and expressed some satisfaction with the ways in which any incidents had been handled. We have complete confidence in the vast majority of our current examiners, and do not wish to imply criticism of them by this review.

There will inevitably be some period of adjustment needed as the new procedures are implemented. We ask for your patience and tolerance for this time, in the hope that we will end up with a better, more manageable system that serves everyone more satisfactorily.

### *Beyond Our Shores continued*

season and occupies 7 to 10 hours of his day, including preparation.

"It's not scripted," he said. "I ad lib all the time." He said he spreads his effort out among several bands too—and notes that 17 metre has been great this year. Hicks estimates that he speaks with 400 to 500 youngsters each holiday season, and sometimes they include children of the youngsters he'd met years earlier.

A ham for 41 years and a long-time Amateur Radio instructor, Hicks says his Santa's Workshop has been a great ham radio recruiting tool. One of his most memorable experiences was when a young girl he'd once spoken with on the air as Santa came by with her ham ticket in hand to thank him in person for

getting her interested. "I had tears in my eyes, of course," he said.

Santa had a Web cam <<http://www.wobf.com>> so the kids could see Santa in operation.

Do we have a volunteer to be the VK/ZL Santa next year?

(ARRL Dec Newsletter)

### CANADA

The RAC Board of Directors has elected of Charles Leggett, VE3CFL of Toronto, as the Canadian Radio Amateur of the Year for 2001.

Charles served in the Royal Corps of Signals, 1941-1945, and moved to Canada in 1953. He worked as an assistant chief engineer with a U.S. company, which worked on the Avro

Arrow project. After that project was scrubbed in the 1960s Charles sold insurance and trained salespeople. He is also a sailor and writer.

Charles' contributions to amateur radio are many and earned this award for his tireless work in providing instruction and training so others may become radio amateurs. Because of his work over the past 12 years some 200 persons have become licensed radio amateurs.

Should we have a "Radio Amateur of the Year?"

(RAC via qnews)

If you have an interesting story or know of a forthcoming event overseas, please email or snail mail me. VK2AYD QTHR or [davpil@midcoast.com.au](mailto:davpil@midcoast.com.au)

## Portable Two Element Triband Yagi

A portable two element triband yagi came as a result of the portable operating experiences of Markus Hansen VE7CA. Markus published the design in QST November 2001.

The antenna uses wire elements and a hairpin match to achieve a match on 20, 15, and 10 metres. The elements are strung between wooden spreaders. The

feedpoint to form a simple choke balun.

Dimensions given favour the bottom end of each band. To adjust the antenna set it up paying attention to the lengths and spacings. Then on 15 metres adjust the hairpin match for lowest SWR in the chosen portion of the band. Then check 10 metres and 20 metres SWR's. Adjust the lengths of the 10 and 20 metre driven

elements for best performance on 10 and 20 metres. Remember the result is a compromise and the aim is to get an acceptable result on all three bands. Markus VE7CA was able to achieve an SWR under 1.3 : 1 in the CW segments of all three bands. He also had under 2:1 in the bottom of the SSB segments.

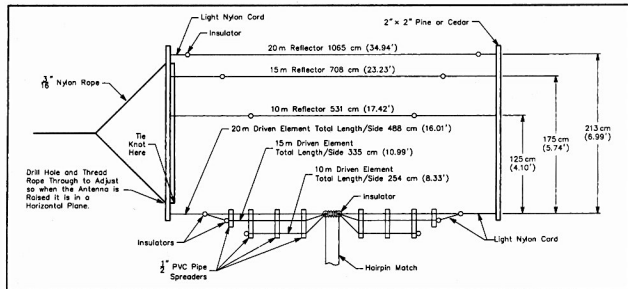


Fig 1.2 Element Wire Triband Yagi.

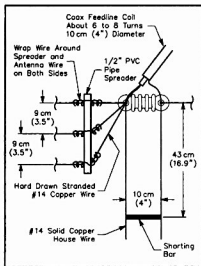


Fig 2. Feed Point of Triband Wire Yagi.

spreaders used were 2 x 2 inch pine 2.13 metres long and local timber could be used. The size and timber type is not critical but it should be light and strong enough. While the size specified is not common locally in Victoria there are alternatives available. Have a look around at your timber merchant.

The antenna is a two element beam. The driven elements have a common feedpoint and a hairpin match is used. The reflectors are strung separately. The antenna is shown in Fig 1.. The feedpoint and hairpin match are shown in Fig 2.. The feedline used was 25 metres of RG58 which is a compromise between antenna height, station position, and weight and of course loss. The feedline is coiled up for 6 to 8 turns on a 100mm diameter close to the



**This is an awkward spot!**

Club publicity officers,

Help us fill corners like this by using it to publicise your coming event.

Send us your details

## Technical Abstracts

### Sardine Sender Updated

The Sardine Sender was a popular homebrew QRP rig published in QST October 1978 by Doug DeMaw W1FB. The name came from the use of a sardine tin as the chassis base for the rig. The connectors were mounted on the side walls of the sardine tin with the circuit board on top. The parts were mainly from Radio Shack which we know as Tandy.

An updated version appeared in QST November 2001 from Erik Westgard NY9D. The parts are mostly still available. The crystal used was a 3.579545 MHz colour burst crystal but other crystals can be used.

The main difficulty which had to be overcome was a source of suitable RFCs. This was overcome by modifying Radio Shack 100 microhenry chokes part number 273-102 to provide the required inductors.

The circuit board looks like a perforated prototype board but strip board or plain perforated board could be used. The size is set by the size of the sardine tin mounting base.

The circuit is given in Fig 3. There are relatively few critical components and most were sourced from Radio Shack or Tandy. Some small parts such as resistors and capacitors came

from miscellaneous grab bag assortments sold by Tandy. All picofarad value capacitors should be NPO ceramic for preference. The higher value capacitors other than electrolytics could be monolithic ceramic types.

The 2N3053 transistor should be fitted with a heat sink.

The coil data is given in Table 1. All coils are based on a 100 microhenry RFC Radio Shack (Tandy) part number 273-102.

Table 1. Coil Data Using Radio Shack 273-102 100 microhenry RFCs.

L1	100 microhenry unmodified RFC
L2 - L4	10 microhenry choke. Unwind to 15 turns close wound near the centre of the choke.
L5	12 microhenry choke. Unwind all but 16 turns. Gives 11.8 microhenry.
L6	8.9 microhenry choke. Unwind all but 14 turns for 8.9 microhenry.
T1	Broadband impedance matching transformer. Unwind to 15 turns to give 10.6 microhenry. Save wire and use it to over wind a 2 turn secondary winding.

Except as indicated, decimal values of capacitance are in picofarads ( $\mu\text{F}$ ); others are in picofarads (pF); resistances are in ohms; k=1,000, M=1,000,000

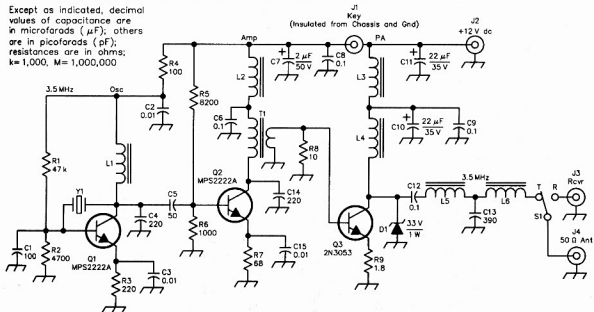


Fig 3. Updated W1FB Sardine Sender Transmitter.

## SEANET 2002

## PLAN AHEAD

**Perth, November 1<sup>ST</sup>, 2<sup>ND</sup>, 3<sup>RD</sup>**

Supported by the Northern Corridor Radio Group. Web site [www.qsl.net/seanet2002](http://www.qsl.net/seanet2002) for all the news.

Contacts [yk6adi@wn.com.au](mailto:yk6adi@wn.com.au) OR [yk6xc@qsl.net](mailto:yk6xc@qsl.net)

# Determining Transistor and Diode Leads with a Multimeter

An old but useful technique was presented in the Hints and Kinks column of Bob Schetgen KU7G in QST September 2001 by Bert Kelley AA4FB.

The technique is to use a multimeter on the Ohms range to identify transistor leads. Many multimeters have a diode check function which provides a suitable range. However you can use any suitable Ohms range which uses a current low enough not to damage the device under test. A small signal transistor cannot handle the current that a power transistor can handle.

A transistor can be represented as a pair of diodes. See Fig 4. By conducting a series of tests you can identify the base

lead common to both diodes. The meter polarity will tell you if the transistor is PNP or NPN. Just look at the diagram and your tests. Watch out for some meters which have test probes which are reversed polarity on the Ohms range. Another meter will reveal this. The collector to emitter test should be high

resistance in each direction. The other tests are like all diodes high resistance one way and low resistance the other.

You can often do the test on transistors still in circuit but watch out for the influence of other components. Best result is achieved out of circuit.

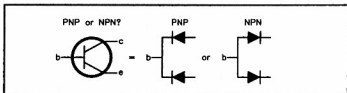


Fig 4. Bipolar Transistor Appears to an Ohmmeter as a Pair of Diodes.

## URUNGA FIELD DAY

Easter Saturday & Sunday, March 30 & 31 2002  
Senior Citizens Hall, Bowra St

quizzes

novelties

lucky door prizes

Trade tables

Tea and Coffee available

Fox Hunts and raffles

### PROGRAM

#### Saturday 30<sup>th</sup> March

10-11 am 80 m Mobile Foxhunt

11.30-Noon 2m Pedestrian

Noon - 1.30pm Lunch

1.00-1.30 80 m Novice

2-3 pm 2 m Mobile multi Tx

3.30-4 pm Talk-in m 146.500

6.00 pm Meal Booking required

#### Sunday 31<sup>st</sup> March Easter

9-9.30am Scramble

10-10.30 am 80 m Novice 40 m Fun type event

11-Noon 2 m mobile multi Tx

Noon - 1 pm Lunch

1.30-2 pm 2m Pedestrian

2.30-3 pm Talk-In 2m fun event

4pm Presentations

More information from:

Brian VK2ZCQ 02 6655 1115,

Arnold VK2ADA

### Registration

One day OM \$10, YL \$6, Family \$16

Two Day OM \$12, YL \$8, Family \$20

# WIA DXCC standings (January 31, 2002)

## Callsign Countries Honour Roll (325) Phone

VK3EW	334/340
VK5MS	333/387
VK4LC	333/380
VK5WO	333/365
VK6LK	333/358
VK6HD	333/358
VK3QI	333/347
VK3AKK	333/346
VK3DYL	333/339
VK2FGI	333/339
VK3SX	333/338
VK4UA	331/345
VK1ZL	331/337
VK4OH	330/337
VK2AVZ	329/340
VK3CSR	329/338
VK2DEJ	329/335
VK6NE	328/344
VK3YJ	326/332
VK4AAR	325/329

## General listing - Phone

VK7BC	324/329
EA3AKN	323/331
VK3AMK	321/340
VK5EE	321/327
VK6VS	319/323
VK5FV	319/322
VK4LV	313/307
VK6AJW	312/317
VK3JI	310/325
VK6APK	310/315
VK5WV	306/328
VK6PY	306/312
VK4SJ	306/307
VK6RO	304/310
VK6ABS	304/000
VK4ICU	303/305
VK3IR	302/308
VK1TX	300/000
VK6DY	294/301
VK4DP	293/305
VK2WU	291/296
VK4BG	286/302
VK4EJ	286/288
VK3CYL	282/288
VK4BAY	275/278
VK3DP	274/277
VK4TS	270/271
VK2UK	268/273
VK3GI	263/267
VK4AO	263/000
VK3VQ	259/276
VK3UY	259/261
VK6ANC	258/262
VK5IE	258/261
VK3CJM	253/257

## Callsign Countries General listing - Phone

VK6LC	253/254
VK2HV	253/000
VK2PU	243/247
VK6YF	238/241
VK8KTC	231/233
VK6APW	228/229
VK3ETM	226/227
VK8AM	225/000
VK3SM	222/242
VK5BO	217/222
VK3DD	213/217
VK4IL	212/000
VK4XJ	204/216
VK3DVT	201/204
VK2CA	201/000
VK6BH	200/000
VK3EFT	198/201
PY2DBU	195/197
VK2FHN	190/000
VK7JAB	186/000
G0VXX	184/000
VK2FHN	173/000
WA1MKS	171/000
VK6APH	168/169
VK4CHB	167/168
VK2BQS	164/167
LU5DSE	161/000
VK4ARB	159/160
VK4IT	154/155
VK4BP	154/000
VK2GSN	152/000
VK7LUV	148/000
VK2SPS	141/143
VK8LC	136/000
VK3DQ	133/147
VK2LEE	130/132
TI2YLL	127/000
VK4VIS	126/128
YC8EMH	126/127
VK2IRP	125/101
TG8NE	125/000
VK2EJK	124/000
SM6PRX	121/126
HL4YD	118/119
VK2MH	116/118
VK7WD	115/116
VK5GZ	113/115
VK6NV	111/113
JA8XDM	111/000
C21DJ	109/000
VK3MRG	108/000
JE9EMA	108/000
VK5UO	107/110
HC2HYB	106/107
VK4LW	105/000
JN6MIC	103/104

## Callsign Countries General listing - Phone

ZS6IR	102/104
KB2NEK	102/103
C21NJ	102/000
VK2FZR	102/000
JH3OHO	101/103
VK3EJM	101/103
VK3KTO	101/102
VK1PRG	101/000
ON4BCM	100/000

## Honour Roll (325) CW

VK6HD	333/354
VK3QI	333/345
VK5WO	326/342

## General listing - CW

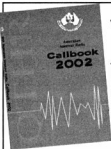
VK3KS	307/335
VK4LV	297/300
VK4ICU	291/000
VK3JI	274/299
VK3AKK	270/275
VK4KU	251/000
VK7BC	246/255
VK6MK	246/249
VK3DP	245/247
VK2CWS	244/246
VK4DA	237/239
VK3DQ	234/261
VK3CIM	233/234
VK4DP	205/216
VK7TS	204/000
VK7RO	201/204
VK5GZ	197/199
VK6PY	190/194
VK6HW	179/182
VK5UO	165/166
VK5BO	159/184
VK4XJ	150/163
WA5VGI	146/148
VK4UA	143/145
VK4AAR	142/144
VK8AM	138/000
N0TM	135/000
VK7DQ	131/132
VK2BQS	124/126
VK2TB	123/125
VK7CQ	120/122
DK6AP	120/000
SP1AFU	112/113
K5QNM	110/113
VK5BWW	110/113
VK6NV	109/110
OK1FED	109/000
VK2FYM	106/108
VK4CXQ	106/000
UR5BSJ	106/000
VK3DG	102/000
SM6PRX	101/102

## Callsign Countries Honour Roll (325) Open

VK7BC	334/343
VK4LC	333/380
VK5WO	333/369
VK6HD	333/360
VK3QI	333/348
VK4UA	331/347
VK2AVZ	329/340
VK3AKK	327/388
VK4AAR	327/331

## General listing - Open

VK3UY	324/330
VK3JI	322/351
VK6AMK	322/341
VK4LV	320/319
VK4DV	313/328
VK4ICU	311/313
VK6RO	310/316
VK4DP	309/323
VK3DP	305/309
VK4BG	293/312
VK7TS	285/286
VK3CYL	282/288
VK3CIM	282/286
VK2UK	269/273
VK5BO	264/302
VK6ANC	261/265
TF5BW	260/264
VK6LC	258/256
PY2DVU	254/259
VK6MK	253/256
VK2HV	253/000
VK2CWS	250/252
VK5UO	248/250
VK3DQ	246/275
VK6APW	239/240
VK2ETM	238/240
VK4DA	237/239
VK8AM	236/000
VK4XJ	233/249
WA5VGI	216/218
VK5GZ	204/206
VK2EFT	202/205
VK2FHN	193/000
VK2BQS	181/184
VK4CHB	177/179
VK6APH	171/172
9A4KA	168/000
SM6PRX	162/169
VK3VB	153/165
ON9MCR	129/140
VK4EZ	129/138
YB8GH	127/129
VK3OZ	126/127
VK7CQ	123/125
VK3MRG	109/000
VK2AJE	100/000



# WIA Callbook

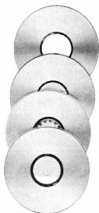
This year's callbook is a shortened version containing only the VK call signs and little peripheral information. Its price reflects its shortened format by being considerably less at \$15.00 (plus postage and handling).

## Callbook on CD Rom.

This year WIA is offering the 2002 Callbook as an Acrobat file on a CD Rom, also for \$15.00 (plus postage and handling)

The advantages of CD Rom is that the files are searchable by callsign address, surname, postcode or even suburb, virtually whatever you want.

The attached search program, Acrobat Reader, is the world's most popular reader of files and is completely cross-platform compatible, it works on all computers.



We have included readable,searchable and printable files of the 2001 information regarding

Examiners

WIA Divisional Information

Wicen

ACA information

Operating information

Radio and TV Broadcast Stations

Internet Addresses of Interest

Affiliated Clubs

Travellers nets

Operating —special interest groups

Repeaters and Beacons

Useful forms.

## Order through your local Division contact details on inside back cover

**Ask about the price of the Book and the CD if bought together.**



EASTERN AND MOUNTAIN DISTRICT RADIO CLUB INC.

## WHITE ELEPHANT SALE

**SUNDAY 24 MARCH 2002**

Selling space: \$15.00 per table  
(inc. entry for one person). For Bookings call  
Peter VK3DI on 9720 8874, or email  
petermac@alphalink.com.au by 10 March

**[www.emdrc.com.au](http://www.emdrc.com.au)**

**Great Ryrie Primary School**

**Great Ryrie Street Heathmont**

**Doors open at 10:30 AM**

**Entry \$5.00 per head**

# Division News

## VK1 Notes

### Forward Bias

Feel like stretching your wings and do something different and interesting this year? Why not join the Division's committee? There are eight places on offer. Once you are elected to the committee, you get to know more about the things that happen at the various levels in the world of Amateur Radio. Many of the activities that happen at national and international levels have their origin at club or divisional committees. This year will be particularly interesting as the ACA will be responding to WIA initiated proposals in response to the changing

circumstances in which Amateur Radio finds itself. Some of these proposals include changes to band plans, a new type of licence, and new rules for the WIA examination service. All of these changes provide opportunities for implementation of the changes, and to guide the Club or Division seamlessly toward greater enjoyment of the hobby. Nomination forms for a position on the committee are available before the AGM. Just send your address to [pkloppen@austarmetro.com.au](mailto:pkloppen@austarmetro.com.au)

Don't forget folks, the Annual General

**Peter Kloppenburg VK1CPK**

Meeting (AGM) on February 24, 2002 will be preceded by a BBQ starting at 6:00 pm, in the compound of the Parks and Garden Depot in Longerenong St, Farrer. The callbooks for 2002 have arrived. Pickup your copy at any of the General Meetings and pay only \$12.50 when personally collected.

The next Trash & Treasure sale will be held on Sunday, April 21, 2002 starting at 12:00 midday, also at the compound.

The AGM will be held on February 24, 2002, at the Scout Hall in Longerenong St. Farrer at 7.30 for 8.00 pm. Cheers.

## VK2 Notes

**By Pat Leeper VK2JPA**

The Annual General Meeting of the VK2 Division will take place on 13<sup>th</sup> April 2002, with nominations and agenda items due by 2<sup>nd</sup> March. Members will be notified by post in the middle of January, just in case they don't pick up on it elsewhere.

The main interest over the holiday period was, of course, in the large number of bushfires threatening

property and life along the NSW coast and in the Blue Mountains. At time of writing this column, I have not heard of any amateurs directly affected adversely by the fires. I hope this remains so.

To the many amateurs involved, either as firefighters, communications, or just general dogsbodies behind the scenes, you have our grateful thanks for your

efforts that together, saved so many homes from the flames.

It has been a quiet time otherwise for the Division over the break, with the next event to be the Trash and Treasure on the last Sunday in January. Then comes the Field Day!

See you there...

That's all for this month.

## VK4 Notes

### Sunshine Coast Interference

Interference on 146.425 MHz appears to be a digital type transmission. It does not sound like 1200-baud packet, too short. But just like packet, it starts, goes for a time, and then goes quiet for a while. It seems to drift from 146.420 to almost 146.500. It appears to come from the Wilkes Knob area. Maybe the portable traffic lights supposedly on 160.000 MHz? If you have the ability to scan the spectrum, then maybe identification of freq. and owner of the transmission could be made. Results please to Bill VK4XZ

### Use-by-date!

You've heard VK4BTW Tom mention

that "Use-by-Date" as applied to the observer members of the Intruder Watch, well it has finally applied to his position as VK4 Co-ordinator and VK4BTW has advised the WIAQ Council and others that he will be resigning that position at the end of June 2002. Until that date Tom will be on the job as usual unless the position is filled earlier. Tom offers all assistance needed to get started with IARUMS.

### Townsville Ladies get a gong in the ALARA Contest

The Ladies of Amateur Radio group in Townsville say they are excited! With good reason too, as the special event station VI4FLG that they operated

during the 21st ALARA Contest has received a certificate for "Top VK Club Station".

The certificate will be suitably framed and displayed at the TARCinc Club Station and copies of the certificate will be presented to all ladies who operated the winning station.

### John Moyle for the TARCinc

The Townsville Amateur Radio Club will be active during the 2002 John Moyle Field Day from a tributary of the mighty Burdekin River.

The Club Station VK4WIT will be located at Fletcher Creek Camping Grounds, Gregory Developmental Highway (Lynd Highway), Fletcher

Creek, Shire of Dalrymple. Position 19deg 48min 50sec South, 146deg 03min 17sec East. It's 130km by road from Cluden Walkabout via Flinders Highway and Gregory Developmental Road or, 180km by road from Thuringowa Central via Herveys Range Road and Gregory Developmental Road. The Grid QH30ae UTM 55K 0401000 7808829 at an altitude of 270 metres.

Duration from p.m. Friday March 15th until lunch Sunday March 17th. Club Station and Singalong under the big TARC tarps, TARCvan in attendance.

## ABC Publicity Broadcast

Still in Townsville, VK4PS gave the good oil on Marconi and Amateur Radio over the local ABC Radio Station 4QN. Interviewer Michael Clark had Alan provide the history of the first radio message plus a discussion on Amateur Radio's involvement with the State Emergency Service, the educational program of the local Amateur Radio Club and the enthusiasm that licensees have in their experimentation.

## VK4 Distance Record

A new Queensland distance record on 24.048.1 GHz USB was established on the morning of Tuesday 8th of January over a 72.8-km path. Location 1: Wellington Point, VK3ZQB + VK4ZHL portable. Location 2: Caloundra, VK3XPD + VK5DK portable. Signals strengths up to 5x5 after initial optimisation with typical daytime QSB. The visiting team is continuing with local propagation experiments. The challenges of building and operating microwave amateur radio equipment are wonderfully rewarding in many ways!

# VK6 Notes

## Notice of the Annual General Meeting for 2002

It is hereby notified that the Annual General Meeting of the Wireless Institute of Australia (Western Australian Division Incorporated) will start at 10am on Saturday 20th April 2002.

The venue for this year's AGM event will be the Board Room at CWA House 1174 Hay Street West Perth and the agenda will be:

1. Consideration of the Council's annual report
2. Consideration of the financial report
3. Consideration of other reports
4. Election of office-bearers (President, Vice President and seven other Councillors)
5. Election of two Auditors
6. Appointment of a Patron
7. General business which has been duly notified.

Notices of Motion for the AGM must be received by the Secretary not less than 42 days prior to the meeting (ie by the

8<sup>th</sup> March 2002), and must be signed by at least three members.

The Secretary's postal address is WIA WA Div. PO Box 10 West Perth WA 6872.

Nominations of candidates for election to Council must be received by the Secretary, in writing, not less than 42 days prior to the meeting (ie by the 8<sup>th</sup> March 2002), with an intimation that the candidate is willing to act.

A candidate may submit a statement, not exceeding 200 words, outlining his or her experience and case for election. Each nomination shall be signed by two members proposing the candidate. Candidates must possess a current amateur licence.

Any financial member who is entitled to vote may appoint a proxy, who must also be a financial member who is entitled to vote, to speak and vote on his or her behalf. Written notice of such proxy must be received by the Secretary prior to the meeting, and be in the following form:

I (full name), a member of the Institute, hereby appoint (full name), also a member of the Institute, to act for me as my proxy, and in my name do all things which I myself being present could do at the meeting of the Institute held on the 20<sup>th</sup> April 2002.

Signed:

Witness:

Date:

Lunch will be provided in the form of sandwiches, cakes, biscuits, coffee and juice.

Council trust there are sufficient amateurs who care enough to come along to the AGM and would like to see a quorum by 10am. Lunch will be at 12 midday and then there could be 2 hours of discussion on amateur radio "The AR topic's that interest me", plus "Any Questions". Will VK6UUU might bring his Tesla Coil along for a demonstration, in case you missed it last year.

## Silent Key

### Bill Bower VK7AV

It is with regret that I learnt today that Bill Bower ex VK7AV passed away after a long battle with Alzheimer's. Bill was in Special Care at Peacehaven. Rae, his widow just lives a few doors away from me at 5/177 Penquite Road and I used

to see her daily as she walked across to special care to see Bill.

Bill or "Ace" as he was known was onetime Divisional Secretary and Northern Branch Secretary and he got his call after graduating from CB. He was

for many years the Launceston Registrar of Births, Deaths and Marriages, or as he called it, the Office of Hatch, Match and Despatch.

Vale Ace VK7AV

Robin L. Harwood  
20/177 Penquite Road  
Norwood TAS 7250



# Intruder Watch

Thanks to all who sent in observations for this report.

The 14 MHz Indon CRIMS and others below 14.1 have decreased more than somewhat thanks to the Amateurs who have 'occupied' the frequencies. There are some 'nasty' indon crims especially on 14.1. Do not be deterred, as this seems to be the only way we can get them off our bands. Thanks to the Amateur who played the 'Talliban Hitparade' that really upset the Al Qaida followers.....

The 'JOEY' mob do not seem to be able to change frequency or USB to LSB, maybe they are XTAL locked on 14.100!

One Intruder not heard for some time is QUANG ZOU, not far from Hong Kong. The broadcast on 18085 starting before 0820 and they did close transmission at 1127 when they were heard in Humpty Doo. They give ID and time pips at 0900. If you remember, they used to relay Hong Kong on 28 MHz a few years ago!!

The U.N.T.A.E.T. VHF/FONELINKS on the 144MHz Amateur band is being sorted out. We will keep you informed on the progress.

Keep up the good work please and remember if we do not, there will be no bands for our new generations of radio amateurs..

GL de Henry, VK8HA in Humpty Doo, email:vk8ha@octa4.net.au

FREQ	DATE	TIME	EMM	DEGS	RST	DETAILS	FREQ	DATE	TIME	EMM	DEGS	RST	DETAILS
14100	DY	ALL	USB	330	S9+	Indon CB Crims on USB and LSB..Chinese Packet fqs below 14.1	14250	DY	—	A3E	—	—	PyongYang B/cast.H5 of 2.850MHz lowmod level N0N at times
14110	DY	1210	CW	320	S2	Daily Pips.Now moved to 14315.CW Figs also at 2330	14279	3011	0800	F7	330	S2	UI B/cast from
14116	DY	—	F7B	—	—	Hels.type.4 channel 500Hz space.short runs	18085	1811	0820	A3E	—	S9	QuangZou China near HongKong.ID + time pips at 0900
14120	1811	1152	PKT	345	S9	Chinese Packet 4 channel data 500Hz space	21420	—	—	A3E	—	—	H3 of PyongYang on 7.140
14120	DY	—	F7B	—	—	UI..same tx as sending Daily Pips?	28000	DY	any	CB	—	—	Chinese CB. Some strns up to S9+. They took 'A HIDING' during the CW Contest!
14300	1811	1130	R7	330	S9	'Sawmill' type .4 kHz wide w/timing tick	<p>The 24890 + CODAR - OHR near Humpty Doo is still going strong. Not very strong at VK8HA QTH back of their antennas! Thank GOD for that, otherwise that would be the end of 24 Megs for me!!</p> <p>That is all for now. de Henry VK8HA</p>						
14175	—	—	R7B	—	—	Twin data channel 250Hz space							
14190	—	—	R7B?	—	—	RTTY 500Hz shift 75							
14219	—	—	F1B	—	—	Bd..contin.for 30 mins + UI Sawmill							
14175	3011	0600	F7	330	S7								

## International Amateur Radio Union. Region 3

### Monitoring Systems Newsletter, December 2001.

A hearty welcome to the Pitcairn Island Amateur Radio Association (PIARA) to the Monitoring Systems Group of Region 3. We wish to hear PIARA nominating one of their active amateurs for Monitoring Systems work, so that Region 3, has the advantage of having the observations from the area, so close to Region 2.

Reports from Australia and New Zealand say about the signals from Quang Zou transmitter from Mainland China on 18085 kHz. And the Indian sub continent experiences the 3<sup>rd</sup> harmonic signals from Yunnan B/S on 18105 kHz. The number of Indonesian pirate operations is continuing unabated on various frequencies in the 40 and 20

metre bands. The data transmitting stations occupying about 4 kHz bandwidth are also reported from VK/ZL area. The harmonics of DPR-Korea is still continuing on various frequencies of the 20mb, especially the 5<sup>th</sup> harmonic from 2850 kHz on 14250 kHz, daily, in the VK region.

**News from Region 1:** The Voice of Broad Masses from Eritrea is reported by DARC and SRAL on 7100 kHz. Complaints by DARC through German Authorities were ignored and the station continues. The MS Coordinator of VERON, reported reception of CB like traffic from Brazil in the slot 24890 to 24990 kHz.

**News from Region 2:** The single letter beacons from Russia, A, C, F, M, S were reported, with a word of caution that A beacon might have been the improperly keyed K beacon. The 10<sup>th</sup> Harmonic of Radio Majagual, Colombia is going strong on 14301 kHz. CB type operators on 24 and 28 MHz bands from Brazil and Argentina taxi cabs etc.,

For the latest info from Region 1, please visit the web site: <http://myweb.tiscali.co.uk/rdrnronald> and for info from Region 2 [www.echelon.ca/jarumsr2](http://www.echelon.ca/jarumsr2)

Note: As JARL report has not arrived, this newsletter goes without it. Sorry.

Wish you all a merry Christmas and happy New Year 2002.

# Repeater Link

Will McGhie VK6UU  
21 Waterloo Cr Lesmurdie 6076  
will2@inet.net.au  
VK6UU@VK6BBR

## LIPD Web site

I received an E-mail from Rob VK6JRC telling of a web site established by Rob to inform amateurs of the continuing problems with LIPD interference in the 70cm band. In conjunction with the West Australian Repeater Group Rob sent the following information.

WARG wishes to highlight this issue to all amateur radio operators and bring about a change to the current ACA policy. WARG does not believe that knee jerk reactions such as changing the 70cm band plan to utilise possibly 5.4MHz, 6MHz, combined with the current 5MHz repeater splits is in the best interests of amateurs.

In doing so, a website has been established to provide information and a forum for discussions.

The website can be found at: <http://www.perthhost.com/lipd>

We would welcome your input via our Message Board. Given that similar issues

have now also come about in the United States, with the ARRL set to take up the fight with the FCC over changes to Part 15 rules, which would allow commercial manufacturers to unleash their products in the 425MHz-435MHz band, we would also welcome input from any overseas amateurs. (See <http://www.arrl.org/news/bandthreat/>)

Regards,

Rob VK6JRC

## IRLP Information

Yet another E-mail, this time from Ron VK3ECV in relation to IRLP linked repeater sites around the World and an information sheet of most of the IRLP nodes. Below is part of Ron's E-mail and the attached Information sheet.

On the VK-IRLP mailing list, we have been discussing ways in which we can promote the growing VK IRLP network and new technologies available for us to use.

What is being proposed is a list of current (and pending) VK IRLP Nodes and new International Nodes to be published each month.

There are currently 21 in VK servicing all capitals except Canberra (pending) & Brisbane and Hobart. A number of country cities / towns are also serviced.

I've attached a file that has a list of most the nodes just for your info. A full list is available at <http://www.irlp.net> on the status page.

Ron Perry, VK3ECV, Mildura.

It is unlikely that I will have the time for an article for March as I will be in Melbourne for a part of February and then driving back to Perth, yes during the hottest time of year.

I hope to put together an article on Digital still Cameras with a few tips on what amateur radio operator should look for as soon as possible and hopefully include a few digital photographs and just what you can do with digital photography.

## VK IRLP Nodes

Node	Callsign	City	State	Node	Callsign	City	State	Node	Callsign	City	State
100	VE7RHS	Vancouver	BC	301	WA6SUP	Sacramento	CA	451	KD4Z	Orlando	FL
260	VE3PGC	Cornwall	ON	435	W9DXN	Dixon	IL	128	VE6MPR	Banff	AB
419	N4XQM	Atlanta	GA	112	VE7KU	Port Alberni	BC	321	W7AOR	Las Vegas	NV
101	VE7URG	Vancouver	BC	302	WA6LCN	Marinwood	CA	453	K4KSA	Tampa Bay	FL
261	VE3EI	Cornwall	ON	436	W1CDO	Seattle	WA	129	VE6WRT	Calgary	AB
420	N4GLB	Upstate	SC	115	VE7REE	Penticton	BC	322	KH6GMP	Kailua Kona	HI
102	VE7RNA	Cheminus	BC	303	K8THO	Pasadena	CA	455	W4DOC	Atlanta	GA
262	VE3NUU	Monkland	ON	437	W8HJU	Lima	OH	130	VE6TRC	Fr. McMurray	AB
421	W2ISB	Liverpool	NY	116	VE7RAP	Comox	BC	323	K8LVC	Boise	ID
103	VE7VIC	Victoria	BC	304	WA6JFK	Los Angeles	CA	456	NE1H	Atlanta	GA
265	VA3MME	Omeme	ON	438	W9BC	Wausau	WI	131	VE6RJZ	Canmore	AB
423	NJ2FM	Hopatcong	NJ	117	VE7RIA	Victoria	BC	324	K87RSI	Las Vegas	NV
104	VE7RMT	Victoria	BC	306	AC7DE	Helena	MT	457	WB2WPA	Naples	FL
268	VE3DJD	Burlington	ON	439	KC7ZWG	West Tacoma	WA	133	VE5CMR	Saskatoon	SK
425	WR2ROC	Rochester	NY	120	VE6RPT	Calgary	AB	325	N7BFS	Spokane	WA
105	VE7RVN	Vernon	BC	307	WA6TWF	Santa Ana	CA	459	WA12VZ	Brantford	ON
270	VE3ORX	Orangeville	ON	440	KC8NCE	Grand Haven	MI	134	VE5RAD	Nth Battleford	SK
426	KD4RAA	Raleigh	NC	122	VE6TE	Red Deer	AB	326	KH7R	Henderson	NV
106	VA7OKN	Vernon	BC	308	WR6AVM	Honolulu	HI	460	KD4BBM	Miami	FL
275	VE3KAR	Kingston	ON	444	K83HF	St. Peters	MO	135	VE5SKN	Saskatoon	SK
427	KD4RAA	Raleigh	NC	123	VE6ZV	Calgary	AB	327	K7SDC	Castle Dale	UT
107	VE7MFS	Coquitlam	BC	313	K7OJI	Fruitland	ID	466	WR3S	Nashville	TN
280	VA3CWS	Richmond Hill	ON	445	N8DNX	Stutsmanville	MI	136	VE5CC	Saskatoon	SK
428	W9ADS	Champaign	IL	124	VE6SBR	Edmonton	AB	328	W7XY	Castle Dale	UT
108	VE7TSI	Kamloops	BC	315	WA6RQD	Oceanside	CA	476	N3IO	Philadelphia	PA
281	VA3SCR	Innisfil	ON	446	WB8NXP	Southfield	MI	137	VE5IOU	Prince Albert	SK
430	N3APP	Erie	PA	125	VE7FFF	Fr George	BC	329	W7AOR	Las Vegas	NV
109	VA7MAR	Mackenzie	BC	316	WA6RQD	Oceanside	CA	478	K3VMA	Drexel Hill	PA
290	VA3RV	Brampton	ON	448	K1IMD	East Long Is	NY	138	VE5MLR	Meadow Lk	SK
432	W1QWT	Scituate	MA	126	SARA	Province W	AB	330	N7CU	San Manuel	AZ
110	VE7RGF	Grand Forks	BC	317	W6AWP	Huntington B	CA	510	G4CJ	Sheffield	SY
300	AH6LE	Mt. Angel	OR	480	N4NEQ	Atlanta	GA	139	VE7RJZ	Invermere	BC
433	K9WZ	Plymouth	IN	127	VA8IRL	Lethbridge	AB	331	KA7STK	St. George	UT
111	VE7BHI	Port Alberni	BC	320	AH6CP	Honolulu	HI	512	M1ERS	Sheffield	SY

140	VA7RDX	Vanderhoof	BC	621	VK2TTA	Wahroonga	NSW	399	WY0X	Centennial	CO
333	NV7RM	Reno	NV	201	VE9ARZ	Fredericton	NB	710	J73CS	Roseau	—
513	G4BVV	Maltby	SY	365	KE6PCV	Los Angeles	CA	219	VE3OAK	Oakville	ON
145	VE6PRR	Peace River	AB	622	VK2RIC	Lismore	NSW	400	WA3KOK	Washington	DC
335	NOPSR	Denver	CO	202	VE3ULR	Toronto	ON	750	9Y4AT	Valsayn	Trinidad
514	G0FUO	Mexborough	SY	366	KD7EFG	Murray	UT	221	VE3TST	Stittsville	ON
150	VY1RW	Whitehorse	YT	625	VK2JPJ	Paddington	NSW	402	KA2JZO	Bordentown	NJ
337	AB7TJ	Minden	NV	203	VE1CRA	Charlottet'n	PEI	888	KC4USV	McMurdo Stn	—
515	G83US	Sheffield	SY	368	N7LZM	Kennewick	WA	230	V01KEN	St. Johns	NF
151	VY1RHJ	Haines Jtn	YT	626	VK2WAG	Wagga	NSW	403	N2LKV	Stony Point	NY
340	K8JXX	Anchorage	AK	204	VE3EV	Ottawa	ON	232	V01BWP	Corner Brook	NF
520	G4NJI	Rotherham	SY	369	NG6EX	Sacramento	CA	404	N2CKH	Lakewood	NJ
155	VE5WM	Regina	SK	630	VK3RGL	Melbourne	VIC	<b>REFLECTORS</b>			
341	KD6GDB	Santa Monica	CA	205	VE1NSG	Halifax	NS	235	V01HHR	Grand Falls	NF
521	G8UVE	Burnley	LA	371	WA4HND	Grand Junct	CO	405	N2BJ	New Lenox	IL
157	VE5SCR	Swift Current	SK	631	VK3HEG	Ballarat	VIC	900	REF0	Vancouver	BC
342	KD6LVR	Beaverton	OR	206	VE1WRC	Amherst	NS	240	VE3SUE	London	ON
540	G0XEL	Manchester	—	373	NH6HF	Lihue	HI	406	W1MD	Portland	ME
160	VE8YK	Yellowknife	NT	632	VK3WRM	Merbein	VIC	910	REF1	Toronto	ON
344	AH6GR	Maui	HI	207	VE1KK	NewGlasgow	NS	241	VE3RBM	Kitchener	ON
600	VK2RBM	Sydney	NSW	376	N6JVH	Los Angeles	CA	408	W2CNY	Syracuse	NY
162	VE8NWT	Yellowknife	NT	633	VK3RPU	Arthur's Seat	VIC	920	REF2	Denver	CO
350	K6JSI	San Diego	CA	208	VE1WN	Greenwood	NS	242	VE3SY	Petersburg	ON
601	VK2RMP	Wollongong	NSW	378	WR6HMB	Half Moon	CA	409	KB2FAF	Cortland	NY
165	VE4UMR	Winnipeg	MB	639	VK3JED	IRLP-Exp	VIC	921	REF9F	Raleigh	NC
352	WB6EGR	Burbank	CA	209	VE3BIP	Belleville	ON	245	VE3RAK	Toronto	ON
602	VK2RMB	Terry Hills	NSW	380	AH6JA	Hilo	HI	410	KF3DY	Wellsboro	PA
170	VE4SRR	Swan River	MB	640	VK4RGC	Gold Coast	QLD	930	REF3	Saskatoon	SK
353	K6JXY	San Marcos	CA	210	VE3ADT	Toronto	ON	246	VE3MUS	Huntsville	ON
603	VK2RMR	Mt. Riverview	NSW	381	KG6EAO	Kapaa	HI	412	KF6SWL	Omaha	NE
175	VE4FFR	Flin Flon	MB	648	VK4RCA	Cairns	QLD	931	REF931	Fredericton	NB
354	W6DXX	Palm Springs	CA	211	VE1WY	Lindsay	ON	250	VE3DPL	Midwich	ON
604	VK2RTZ	Newcastle	NSW	382	KC7GHT	Phoenix	AZ	413	WA22PX	Norwalk	NY
180	VE6MHU	Medicine Hat	AB	650	VK5UJ	Adelaide	SA	940	REF4	Yellowknife	NT
355	VE6RGP	San Diego	CA	213	VE3YY5	Ottawa	ON	255	VE2BRR	Montreal	QC
605	VK2RUC	Sydney	NSW	384	K8IXA	Atwater	CA	414	WJ2W	Terre Haute	IN
185	VE6COM	Lethbridge	AB	670	VK7AX	Ulverstone	TAS	950	REF5	Sydney	NSW
357	N7HQZ	Ferndale	CA	214	VE3XTX	Owen Sound	ON	256	VE2TPE	Baie-Comeau	QC
606	VK2RAG	Gosford	NSW	385	W7FDF	Tucson	AZ	415	N5IUF	Dall/Ft Worth	TX
186	VE6KJM	Airdrie	AB	680	VK8RTE	Darwin	NT	257	VE2RJS	Montreal	QC
361	K6UB	Saratoga	CA	215	VE1BAS	Orleans	ON	416	WB5TUF	Houston	TX
610	VK6RNC	Perth	W.A.	387	K6KCP	Sacramento	CA	<b>238 Nodes &amp; Refs</b>			
190	VE6LT	Red Deer	AB	690	ZL3TMB	Christchurch	NZ	<b>Compiled: 19/11/01</b>			
362	KU6V	Fremont	CA	216	VE3IRL	Toronto	ON	258	VA2RLP	Baie-Comeau	QC
620	VK6RFM	Fremantle	W.A.	395	WB6ARE	Cedar Park	TX	418	N4MSE	Dallas	TX
200	VA3LU	Thunder Bay	ON	700	J73D	Roseau	Dominica				
363	KG6EVO	Tahoe City	CA	217	VA3BBB	Windsor	ON				

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# How to Win Friends and Influence People

Cryptic title – eh? And nothing to do with Dale Carnegie. Read on.

Over a couple of weeks or so I've been exchanging e-mails with Peter VK5ZGP. Like many of us, Peter has been part of the Oscar scene for several satellite generations. We talked mainly of the changes that have taken place in the last few years. One particular aspect is the trend away from voice communication and towards more and more digital comms. Happily AO-40 has addressed this situation and a lot of folk have re-discovered the pleasure of chatting via amateur radio satellite to friends old and new all over the world. Peter's main source of enjoyment comes from rag-chewing on the birds and one of his observations in particular made me sit up and take notice. That was the lack of (or difficulty in finding) comprehensive information on really basic, down-to-earth operating practices for total newcomers. It's true that each satellite has its own set of specialised requirements. To cope with that, the only answer – and this applies to all operators, old and new – is to get as much information as you can and read, read,

read. But there are some common rules that don't change from bird to bird and these rules are the ones we are going to talk about here. "How do I get started?", "How do I make sure I do the right thing and not make a fool of myself in front of other operators?" This sort of thing was behind my writing the "Beginner's Series" that appeared in AR back in 1989. In fact I had been asked only last year to consider updating the series. I got as far as dusting off the old 5.25" floppies (remember them?) and seeking help from my friend Alan vk3asb who had a computer that could read them and copy them onto 3.5" diskettes. However, on reading the articles through it became obvious that so much had changed that nothing short of a complete re-write would do. With the end-of-year fast approaching, the plans were shelved for the time being. Anyway, as they say in the classics, Peter wasn't just playing with the idea and he put his pen where most folks just exercise their mouths and ... presto! He came up with a set of suggestions for all those newcomers out there. The emphasis is on the voice-comms birds and the suggestions confront one of the most perplexing of all things that new satellite operators have to cope with, what to do about Doppler shift. The suggestions are based on Peter's own operating experience and the things he found perplexing when he too was a beginner. The list is comprehensive and I'll deal with it over a month or three. I must thank Peter for the considerable amount of work he has put in to compiling what is to follow. I have done very little editing, mainly to fit into the confines of the monthly column. The words are his and I think you'll agree he's done a fine job. Over to Peter.

"After a break of some 8 years, I decided to fire up the old Oscar 10 and 13 equipment and, knowing full well that Oscar 13 has been long gone, got the shock of my life at the grandmother of them all, AO-10, still operating rather wonderfully well, considering her age

and disabilities! Over the past month I have chalked up so many contacts it makes my previous efforts some years ago look rather dismal. However, the reason for this note is that I have recently worked several Australian amateurs who are very obviously new to satellite operations and have, it appears very little practical knowledge of the basic operating principles involved. The most common mistake most seem to make is to use their receivers to tune the other party, thus causing the first party to re-tune, causing the other party to again re-tune, and up/down we all go!"

"When using so-called 'easy satellites', RS-12/13, RS-15 (which is sporadic in its operation), and in fact, just about all voice comms satellites, always work on the principle of trying to stay on the one receive frequency. As the bird appears over your particular horizon, you should already have your favourite frequency picked out; and in the case of RS-12/13, FO-29 etc, that would normally be somewhere near the centre of the transponder's band-pass."

"The Doppler shift associated with low earth orbit (LEO) satellites can make things very interesting and unless we all stick to a single plan of attack, we all end up chasing each other across the passband, dropping off the end, usually well before the satellite pass is over. The following tips are meant as a guideline only, but the basic principle is to maintain a reasonably constant receive frequency".

"I'll use RS-12/13 as an example; it has a transponder that is non-inverting (ie. USB in and USB out-and, of course, USB is the normal method of operation at these frequencies). It's transponder has a pass band of 40 kHz. Here's an outline of a procedure that I have found to work well".

1. A few minutes before the bird is due to appear, set your transmitter up on your favourite uplink frequency and for most people this is the centre of the uplink pass band, 145.930 MHz (the pass band is 40

## The AMSAT group in Australia.

The National Co-ordinator of AMSAT-VK is Graham Ratcliff VK5AGR. No formal application is necessary for membership and no membership fees apply. Graham maintains an email mailing list for breaking news and such things as software releases. Members use the AMSAT-Australia HF net as a forum.

## AMSAT-Australia HF net.

The net meets formally on the second Sunday evening of the month. In winter (end of March until the end of October) the net meets on 3.685 MHz at 1000UTC with early check-ins at 0945UTC. In summer (end of October until end of March) the net meets on 7.068 MHz at 0900UTC with early check-ins at 0845UTC. All communication regarding AMSAT-Australia matters can be addressed to:

AMSAT-VK,  
GPO Box 2141,  
Adelaide, SA, 5001.  
Graham's email address is:  
vk5agr@amsat.org

kHz wide, covering 145.910 to 145.950 MHz)-and have it set in CW mode, with your key attached. (more on this later!)

2. A few seconds before the bird appears over your radio horizon you should be able to receive the beacon on 29.408 MHz +/- Doppler shift; if you note the beacon's frequency, it should give you some idea of the current Doppler shift, allowing an approximation for your transmitter frequency.

3. As the bird does actually appear over your horizon, have a quick tune over its pass band, tuning from 29.410 to 29.450. If you hear no other amateurs calling CQ, quickly set your receiver to the mid pass band frequency of 29.430 MHz and don't touch it for the rest of the pass.

4. Assuming you don't hear anyone calling CQ, set your receiver to 29.430, USB.

5. Make sure your 2m transmitting antenna is pointed in the right direction (all the better if you have a computer driven rotator system!) and, remembering the approximate Doppler shift as heard when listening on the beacon frequency, key your transmitter (CW) at the centre frequency (145.930 +/- Doppler) and slowly move your transmitter frequency until you hear your own signal coming back to you on 10 metres. *Do not move your receive frequency at this or any other time.*

6. Switch your transmitter to USB and start calling CQ; the usual method is simply 'CQ satellite' or even 'CQ RS-12/13' if you like. The most important thing to remember is **not to move your receiver to keep your own voice fully resolved. Use your transmitter VFO to keep your own signal in the same receive position.** Yes, I know, it's a little strange, but you'll get used to it, I promise!

7. As the bird flies across the sky, its Doppler rate will change according to it's position relative to your station, the worse-case scenario would be one that passes directly over the top of your station, where Doppler is not present for that brief period when it's directly overhead-but that ain't for long!

8. Remember, this is full duplex communications! However, pause once in a while to listen, but **DON'T TOUCH YOUR RECEIVE FREQUENCY!** If someone is tuning across the band, they will hear you if you both share the same 'RF shadow' from the bird. If someone is about, you'll quite often hear a carrier slowly zeroing in on your set received frequency; then, with some luck, the caller will then switch to USB and he should be right on frequency, or, at the very least, pretty close to it. However, keep your receiver where it is and keep talking to him, letting him hear your signal and allowing him to tune you in correctly. Again, remember it's full duplex and it's best to have a set of headphones connected to your receiver otherwise the audio feedback is going to be something rather fierce! (and it's good manners to wear them for that very reason!) Headphones also make it easy for you to *adjust your own tx frequency to stay on that one receive frequency!*

9. As the QSO progresses, and with luck it can be for upward of 10 minutes or so-don't be in a hurry, satellite communications is one of the last areas to be hit by the 'quick and the gone'-you know the types, a quick exchange of call signs, handles, QTHs, signal reports and QSL details-a sort of 'wham, bam, thank-you ma'am type of thing-in satellite comms, we like to have a good old yarn! *However, above all else, remain on the one receive frequency; use your transmitter VFO to keep your own voice resolved at that frequency.* The other amateur should be doing exactly the same. That way, you both stay together, at the same frequency.

10. If you do start chasing the other person's transmission, think twice about following them up or down the band-with RS-12/13's narrow pass band of only 40 kHz, and starting in the centre of the band, it won't take long before you both drop off the edge of the civilised world as we now it, and, as they said in the old days, 'Beyond this point there be dragons!'

Next month I'll include Peter's observations regarding operating through FO-29 and in the following month's column, his suggestions regarding AO-10 which is experiencing something of a revival since the advent of AO-40 has given a lot of newcomers their first experience of a high-orbit wide-footprint, long pass-time satellite. Thanks a million Peter.

## AO-40 News from the Control Stations via the AMSAT-BB

### Attitude Management Through Current Eclipse Period

Stacey Mills W4SM reports that the attitude change is progressing smoothly and so far the transponders have been turned on for at least part of every orbit. It was expected that when solar sensor lock was regained in the latter half of January 2002, it would be possible to raise the ALAT back to 0 after which Command stations would then chase the Sun slowly toward 0/0, getting there in April as planned. Controllers were hoping to keep the transponders on for at least part of each orbit, right after perigee throughout this period, but there may be times when this is not possible. At the time of writing, this was the latest information from Stacey:

"We had predicted that the solar sensors would again begin functioning on Orbit 549, and we have preliminary indications on Orbit 548 that they are about to lock again. Once we have precisely determined ALON/ALAT and the sun sensors are functional, we will start magnetorquing to hold ALON against the mystery effect, first slowly raising ALAT to 0 and then progressively advancing ALON from about 300 back towards 360 (0). As noted earlier, it will take until mid April to get back to 0/0, as the sun must first move out of the way".

## More Pictures from the SCOPE Team

Yoshi, JA6XKQ, and the JAMSAT team (along with the RUDAK and SCOPE teams) reported via JAMSAT that they had released several new pictures from the SCOPE cameras on AO-40. RUDAK command station member Jim White, WD0E, captured the latest pix on December 12th. One of the pictures is

the first photo from Camera-A. The pictures are available at: <http://www.jamsat.or.jp/scope/011215/>

## AO-40 Operating News

Many reports are coming in of excellent conditions on the mode U/L-S transponder on AO-40. Not a day goes by on the bulletin board without accounts of good DX contacts being made. It seems many operators are well on their way to DXCC on AO-40. The availability of cheap 2.4 GHz downconverters and small ex-TV dishes has made this a popular mode, even for newcomers to microwaves. There is plenty of material available on the web regarding modifying these downconverters so why not join in? There are lots of stations in North America and Europe looking for contacts into VK and the Southern Hemisphere generally. Hopefully the move to 3-axis stabilisation will improve squint angles all round and lead to an even greater upsurge in DX activity on the bird.

## PCsat News

### PCsat survives the Rigors of Marconi Day

Bob Bruninga WA4APR was a worried man when he rang Richard VK3JFK. He needed help from someone in the Southern Hemisphere who could send commands up to PCsat. The satellite was experiencing rather long eclipses and the batteries were going to give up unless something was done quickly. Something was causing it to switch into high power mode and the Northern Hemisphere control stations were not able to get it to switch back to low power again. The batteries were being drained almost flat. Richard rang me and between us we were able to accommodate Bob's requirements. Bob sent me some telemetry display software and some control station software and away we went. For some days, with Richard monitoring, I was able to do the switching each time the satellite came into view. Bob was preparing to travel to Newfoundland for the US Navy's Marconi-Day celebrations. He delayed his departure until the last moment and was (just) able to upload suitable celebratory messages to the satellite. We were all worried that PCsat would not survive the extra load imposed by these messages but as it turned out-it did. The

satellite ran perfectly during the period of the celebrations and only required a reset command once in that time. It has since been returned to normal APRS digipeating service and I have only had to reset it once since. Bob and his team are to be congratulated on turning such a simple satellite into such a success story. PCsat will undoubtedly set a pattern of APRS-style operation for future amateur radio satellites. (I can hardly wait!)

### GPS Tests on PCsat.

Bob WA4APR reported that the GPS experiment was turned on for several orbits on 9th January when the satellite first came into full sunshine again after the long eclipse session. The limited battery budget had not allowed these whole-orbit tests to be made earlier. The GPS remained on for a full orbit and battery volts remained above 15.6 or 1.3 volts per cell. Bob decided to risk leaving it turned on WORLDWIDE for a few more orbits to see what happened. The telltale TELEMETRY values are 00011111 where the 3rd 0 means the GPS is turned on. Further evidence is to watch for the \$PGGA sentences every 30 sec from W3ADO-1 on 145.827 MHz, 1200 baud and MITEL data packets every 30 sec from PCsat-11 on 144.390 MHz, 9600 baud.

## Bologna Moon-Bounce Effort Thwarted by Dish-feed Problem

The Italian amateurs don't do things by halves - so-as part of their celebrations for Marconi-Day, 23cm EME transmissions were planned using a 32 metre diameter Radio-Astronomy dish near Bologna in northern Italy. This was reminiscent of the Algonquin (Canada) tests of some years ago. These types of tests are always of interest to satellite buffs for they offer an unusual opportunity to test one's UHF/Microwave gear under extreme circumstances. I recall meeting with some success during the Algonquin EME tests when Peter Ormrod VK3CPO and I camped out for two nights using quite rudimentary gear. This time I spent some time building a 1.2 GHz feed for my dish and on the day of the test (Marconi-Day), I worked out all the necessary directions and times, lined up the dish on the Moon and listened, as the Moon slowly set, for

the whole of the mutual window with Bologna. Sadly ... not a sausage! I had even calculated the Doppler shift due to the relative motion of the Moon which was at various times, moving closer to Bologna and at first closer to and then further away from Milawa (all at differing rates). I wanted to be sure I was tuning in the right spot. I was reasonably confident of at least hearing the station and (due more to their 32m dish than to any effort of mine), to perhaps even make a contact. It was mid afternoon our time when the EME window opened to Bologna and with the Sun high in the sky I could hear 3-4 dB of solar noise. That should have been more than enough sensitivity to allow me to at very least hear the Bologna signals. So what went wrong? Did I get the times wrong? Was the tracking program in error? Did I mess up the UT time difference? There was no mention on the Amsat-BB of the tests being abandoned and when I made an inquiry I was informed that the signals had come in loud and clear in the USA. Things looked black. It was "back to the drawing board" but I still couldn't find anything wrong. The next day I received an e-mail from Domenico, I8CVS who was part of the team. He informed me that they had trouble with their dish feed device for some time after their moonrise (which was when the VK window opened). They did not resolve the problem until after the mutual window with VK had closed ... that is to say ... the Moon had set here. So there it was. I was frantically tuning around and checking the aiming of the dish and all the while there was feverish activity at the other end to resolve a problem. It appears the problem had also disappointed a couple of regular VK EMEers who had scheds, so I wasn't the only one. Still ... I was relieved to know that my gear was probably good enough to do the job but sadly it just wasn't to be on the day.

ar

### RD Contest:

Interesting that 304 of NSW 398 VHF points came from members on SARC

## How's DX

Ross Christie, VK3WAC  
19 Browns Road, Montrose 3765, Vic.  
Email vk3wac@aol.com

# How about Antarctica?

Propagation on the amateur bands has picked up at last and it seems that conditions are now beginning to reflect those expected at the peak of the sunspot cycle. Late evenings are especially good into Europe from my QTH on 15 and 20 metres, and 10 metres has proved very lively in the late afternoon and early evenings. The 6 metre band is still very quiet at my location and even though I have had my IC746 scanning over the calling frequencies no DX has been heard, only a few local stations. My antenna setup for 6m is very basic, a colinear vertical and a simple dipole, but surely I would have heard the better equipped local working the DX if it was around?

## The DX

**3W, VIETNAM.** Karl, W9XX is currently QRV as 3W2XK from Saigon and will be there until early April. He spends a bit of time around 14260-14270 kHz, 21370-21400kHz and 28500 kHz. QSL via W9XX. [TNX Daily DX]

**5N, NIGERIA.** Frank, 5N1BHF, has been busy on the 12 metre band, around 24940 kHz actually. He can be heard as early as 1000z and sometimes as late as 1615z. When not on 12 metres he can often be found on 20 metres on 14195 kHz usually after 0500z. QSL via OE6LAG. Another Nigerian station, 5N0NHD, has also often been heard on 24899 kHz CW but after 0700z. QSL via JH8BKL. [TNX OPDX]

**5R, MADAGASCAR.** Solofo, 5R8ET and Albert, 5R8GZ are both QRV on 12 metres. Solofo can often be found on 24947 kHz SSB after 1600z, QSL is via K1WY. Also, Albert is active on 24902 kHz CW or on 24966 kHz SSB usually between 1215 and 1530z. QSL is via G3SWH. [TNX OPDX]

**7X, ALGERIA.** Mirek, SP5IXI (VK3DXI, 9V1XE and 9M8DX) has been working in Algeria since June 2001. He says that his request for an amateur radio licence has been granted and he has asked for the callsign 7X0DX but is still awaiting confirmation of this. Mirek

There are a few Dxpeditons planned for this month, probably the most notable is that to Ducie Island. This new DXCC entity will be in great demand from the DXCC hunters and those of us in VK who wish to add this new one to the list should be in a better position than most. Due to our relatively close proximity some judicious planning should see us able to pick a band and time that will enable us to put in a decent signal to the DXpediton operators. This should offset to a fair degree the 'Californian Kilowatts' who will be running up their power bills to log this new one for themselves.

Those not into pile-ups might want to have a go at working some stations in

hopes to begin operating on HF and satellite sometime in January 2002 for a period of 2-4 months. QSL to DL4DBR, either direct to Teddy Barczyk, Pappelstrasse 34, 58099 Hagen, Germany or through the DARC bureau. [TNX SP5IXI and 425 DX News]

**DL (GERMAN ANTARCTIC BASE).** Dominik, DL5EBE says that a YL operator, Mechta, may soon be QRV for a short period of time as DP0GVN from the German Antarctic Base "Georg von Neumayer". Amateur operator Sepp, who was active from here a number of years ago as DP0LEX, is also a member of the current team based at the new "Kohnen Station" which is located about 500 km south of Neumayer Base. Dominik is not sure what kind of HF equipment is installed at the base but hopefully it will be able to QSY onto the amateur bands. He hopes to join the Antarctic net which runs every Monday on 21275 kHz around 1700z. [TNX The Daily DX]

**GJ, JERSEY.** Martin Atherton, G3ZAY and Dominic Smith, M0BLF will be active from the Isle of Jersey (EU-013) as GJ6UW from the 15th until the 17th of February. Their plans are to operate on all bands 160-10 metres CW and SSB from a site in the north of the island. QSL

Antarctica. Mondays at 1700z (0400 local) on 21275kHz sees the Antarctica Net on the air. The milder weather in this region during the summer in the southern hemisphere sees the supply ships visiting with equipment and stores for the coming winter. They also bring a crew change that often includes new amateur operators. Naturally they will be keen to find out what conditions are like from the bottom (top?) of the world on the various bands. Admittedly the net is active a bit early in the day for normal 8-5 workers, but who said life was meant to be easy?

Whatever your interest, get on the bands and have a listen around and I am sure you will find something that will pique your interest!

to M0BLF either direct or via the bureau. [TNX VA3RJ and The Daily DX]

**HC, EQUADOR.** Rick Dorsch, NE8Z will be travelling around Ecuador during the period 1st to 16th of Feb. He plans to be on 80-10 metres CW and SSB. He will be using the call HC1MD followed by a region identifier. HC1MD from Tumbaco, HC1MD/HC1 from Pichincha Volcano, HC1MD/HC3 from Loja, HC1MD/HC4 from Sua, HC1MD/HC4/p from IOTA SA-056 (with 100 watts and a dipole) and HC1MD/HC5 from Cuenca. QSL via K8LJG, John Kroll, 3528 Craig Drive, Flint, Michigan 48506, USA. Award chasers may be interested in having a look at the HC/HD DX Award "Equatorial Line Diploma" at <http://www.octavia.com/qsll/awards.htm> [TNX NE8Z and 425 DX News]

**HF0 (POLISH ANTARCTIC BASE).** Miroslaw Stefanski, SP7JKW is heading off to Antarctica and will be active as HF0POL from the Polish base "Henryk Arctowski" on King George Island, South Shetlands (AN-010). He will be there from the 1st of Jan until the 31st of Dec 2002. He hopes to be able to operate CW, RTTY and PSK-31 and perhaps some SSB on all HF bands including WARC. Listen for him on the weekly Antarctic net on 21275 kHz at 1700z

Mondays. QSL via SQ5TA either direct to Artur Tabaszewski, ul. Wiejska 100, 26-606 Radom, Poland or via the bureau. [TNX SP2FAP and SQ5TA and 425 DX News]

**J3, GRENADA.** Bill, VE3EBN plans to be active during February and March as J37LR from the island of Grenada. He will be active using CW and SSB on all bands 10 - 40 metres. His equipment consists of an ICOM 706MKII running 100 watts into a mini quad and a half size G5RV. QSL via VE3EBN either direct or via the bureau. [TNX VE3EBN and The Daily DX]

**P43, ARUBA.** Martin, VE3Mrwill be on the air from Aruba in the southern Caribbean, until April 2002 as P43MR. QSL direct to VE3MR, address in QRZ callbook. [TNX VE3MR and The Daily DX]

**V51, NAMIBIA.** Two amateur operators, DL2SL and SP6IXF, will be active from Namibia in Feb and March 2002. The pair will be operating from 'Farm Heimat' which is approx. 130km west of the capital. They will be on air signing V51/DL2SL and V51/SP6IXF between beginning on the 15<sup>th</sup> of Feb through until the 8<sup>th</sup> of March. Operations are planned for all HF bands and 6 metres using a TS-450, TS-50 and IC-706MKII, antennas will include a 3 element Delta on 40 and 80 metres, a TH3, slopers for the WARC bands and a 4-element yagi on 6 metres. They will also have some wire (some?) available to erect some 160m beverage antennas. [TNX DL2SL and The Daily DX]

**ZL5 (ANTARCTIC).** Chris, KC4/N3SIG says he might get a chance to operate as ZL5CP from near the New Zealand Antarctic Base "Scott" on Ross Island (AN-011), Antarctica. If he is successful he will operate around 14.243 MHz. QSL via AI3D. [TNX N3SIG and 425 DX News]

### **IOTA Activity**

**T19, COCOS ISLAND.** The T19M DXpedition to Cocos Island (NA-012) has now been scheduled for the 17<sup>th</sup> of Feb until the 4<sup>th</sup> of March. So far, 14 operators have confirmed their participation, but the group is sure to reach a total of 15. They group will operate four stations feeding verticals for 160, 80 and 40m, 5-band Cubical Quads for 20/17/15/12/10m, dipoles for 30m and a 6-element Yagi for 6m. They have supplied a list of suggested frequencies, these are: 1825, 3502, 7002, 10102,

14022, 18072, 21022, 24892, 28022 and 50102 kHz CW, 1845, 3795, 7080, 14195, 18145, 21295, 24945, 28495 and 50145 kHz SSB and 7035, 14080, 21080 and 28080 kHz RTTY. QSL direct to Grupo Isla del Coco, Apartado 220-6100, Ciudad Colon, Costa Rica. Please note, IRCs are not valid in Costa Rica.

**XE, MEXICO.** Ken, G3OCA and Les, G4CWD will be travelling to Mexico to activate a few rare IOTA entities. They will be departing the UK on the 2<sup>nd</sup> of March heading for the QTH of XE2MX that is serving as their DXpedition headquarters. If they get the chance they plan to operate from most of the following IOTA groups: NA-162, NA-163, NA-164, NA-165 and NA-167. Dates and times will depend on local conditions. A special callsign has been applied for and will be used from all locations. Ken and Les will leave Mexico on the 24<sup>th</sup> of March. QSL via G3OCA either direct or via the RSGB bureau. Any queries regarding the operation should be sent to [ken@g3oca.fsnet.co.uk](mailto:ken@g3oca.fsnet.co.uk) [TNX 425 DX News and The Daily DX]

### **Special Events**

**OX, GREENLAND.** Rene, OX3HX is currently active as OX1AWG. This is the special call for the Arctic Winter Games that are being held over the period the 17<sup>th</sup> until the 24<sup>th</sup> of March. If you manage a QSO then QSL via OX3HX. [TNX PA3GVI and 425 DX News]

**HL17, SOUTH KOREA.** Lee, DS1BHE says that the Korean Amateur Radio League (KARL) will be operating a special event station, callsign HL17FWC, to celebrate the 17th FIFA World Cup competition being staged in Korea and Japan. The station will be active from the 1<sup>st</sup> of Jan until the 30<sup>th</sup> of May (just before the games begin?) Korean Hams will also change their callsigns during the period of the games (31<sup>st</sup> of May - 30<sup>th</sup> of June) to the following: HL1ABC will become HL17ABC, DS1ABC becomes DS17ABC/1, 6K2ABC becomes 6K17ABC/2. Club stations e.g. DS0AB, 6K0AB, 6L0AB, 6M0AB, D70AB, D80AB etc will change their 0 (zeros) to 17. Also, ten special calls DT#FWC (DT0, DT through to DT9) will be aired to honour the ten Korean cities hosting the games. Planning for a special award is underway by KARL officials, details will be released later. [TNX OPDX and 425 DX News]

### **DXpeditions**

**VP6TC, DUCIE ISLAND.** Tom Christian, VP6TC (PIARA president) says that planning is now complete for the Pitcairn Island Amateur Radio Association's second attempt to mount a DXpedition to Ducie Island (OC-182). The group will leave Mangareva (French Polynesia) on the 12<sup>th</sup> of March and will use a VP6 callsign (to be announced at the beginning of operations). Plans are for the group to be operational ASAP upon arriving on the island. The operators will be VP6TC, VP6DB, VP6AZ, VP6MW, VP6BK/JA1BK, JA3USA, JF1IST, K9AJ, and K5VT. The DXpedition has assigned two main frequencies that will be active 24 hours a day, 21020 kHz for CW and 21295 kHz for SSB. Other frequencies include 28495 kHz and 14195 kHz for SSB and 14020 kHz for CW, but activity is also planned for the 160 - 6 metres. RTTY will also get a run as well. Tom says that the low bands and WARC are more likely to be activated in the last days of the DXpedition as the aim is to get his new DXCC entity into as many logs as possible. The team will have 2-element beams for 10 and 15 metres, a 4 Square for 20 metres and wire and vertical antennas for the other bands. There will be a 6 metre beacon set up on 50.110 Mhz to allow propagation into the region to be checked. QSL for HF QSO's is via VE3HO, Garth Hamilton, P.O. Box 1156, Fonthill, Ontario L0S 1E0, Canada and for 6 metre QSO's via JA1BK, Kan Mizoguchi, 5-3 Sakuragaoka 4 Chome, Tama-City, Tokyo 206-0013, Japan. Logs will be available on line for checking at <http://www.big.or.jp/~ham/dx.html>. Donations to help fund the DXpedition will be gratefully accepted and can be sent to either VE3HO or JA1BK. [TNX K5NX, VE3HO and 425 DX News]

**XROX, SAN FELIX.** Massimo Mucci, I8NHJ will be one of the 13 operators who are conducting a DXpedition to San Felix Island (SA-013), between the 12<sup>th</sup> and the 30<sup>th</sup> of March 2002. The expedition is being planned and led by Carlos, NP4IW/CE3AQI and carried out in conjunction with Cordell Expeditions. All the required documentation has been acquired and all is in order. Other members of the team include Alan K5AB, Doug N6TQS, Dick K5AND, John N7CQQ, Franz DJ9ZB, Ricardo CE0YWS, Michael N6MZ, Joseph KO4RR, Wally HB9AHL,



Robert KK6EK and Charles W6KK. QSL via N7CQQ. For further information visit the DXpedition website <http://www.cordell.org/SFX>

**SU, NIGER.** Paolo, I2UIY reports that the planned DXpedition to Niger will take place on the 3<sup>rd</sup> to the 18<sup>th</sup> of February. Seven operators will manning three stations on all bands 160-6 metres running SSB, CW, RTTY and PSK31. More information is available at <http://www.qsl.net/niger-2002>. [TNX I2UIY and 425 DX News]

**S9, SAO TOME.** A group of Norwegian and Swedish operators LA6FJA, LA7THA, LA5QKA, LA5UF, LA6EIA, LA7WCA, LC3EAT, LC6ZBT, SM5COP and SM5IMO will be active from Sao Tome (AF-023) from the 4<sup>th</sup> until the 10<sup>th</sup> of Feb. They have applied for the call S9LA and have been given oral confirmation that it will be issued to them for their operation. The group plans to have at least two stations on the air 24 hours a day with a schedule to operate on 160-6 metres CW, SSB, RTTY, PSK31 and may be SSTV. They will have amplifiers, a wide range of antennas and will place an emphasis on the low and WARC bands, digital modes and 6

metres. The Pilots for the operation are Trond, LA9VDA for North & South America and low bands (e-mail to [la9vda@online.no](mailto:la9vda@online.no)), Tor, LA3WAA for Europe, Africa and 6 metres (e-mail [torpet@online.no](mailto:torpet@online.no)) and Teru, J2M8BO for Japan, Asia and Oceania (e-mail [teru@k-net.or.jp](mailto:teru@k-net.or.jp)). QSL via LA2N, Sore Sunnmore Gruppe av NRRL v/ Otto Norhagen, NO-6143 Fiskaabygd, Norway. [TNX LA6FJA and 425 DX News]

**P5, NORTH KOREA.** Toma, YU1AB reports that Hrane, YT1AD and Voja, YU7AV visited North Korea on the 16<sup>th</sup> of Dec on a business trip. While there they had organised an appointment with the North Korean Ministry of Telecommunications where they requested permission to operate from P5. They took amateur radio equipment with them in the hope they would be allowed to operate during their stay but unfortunately they did not receive authorisation to activate an amateur radio station on this visit. However, after discussions they have obtained "written permission" to conduct a DXpedition beginning on the 5<sup>th</sup> of March 2002. During the DXpedition activities Hrane and Voja will help train 20 local amateur operators. Further details will be released in due course. For many years North Korea has been on the very rare list, perhaps we are seeing preparations being made that will see P5 return to the amateur bands on a more permanent basis? [TNX YU1AB and 425 DX News]

#### Round up

Canadian amateur radio operators will be allowed to replace their ordinary prefix with a special event prefix to the

celebrate the 100th anniversary of Marconi's first transatlantic transmission. VX will replace VE, VG for VA, XJ for VO and XK for VY. These changes are authorised for the period between the 12<sup>th</sup> of Dec 2001 until the 12<sup>th</sup> of Feb 2002. [TNX OPDX Bulletin and 425 DX News]

**ANTARCTICA NET.** Every Monday on 21275 kHz at around 1700z a traffic net operation is held on this frequency. DXers have a chance, after the regular traffic has been sent, to work stations from Antarctica. The net has a number of regulars including ZS7/ZS4AGA, R1ANF as well as VP8CMH/mm. Because it is summer in the southern hemisphere there are a number of supply ships and extra personnel visiting the various international research stations and bases this has brought an increase in the 'local' amateur population. The 'Antarctica Net' expect some new 'check-ins' over the next few weeks, hopefully they will include KC4/N3SIG from Mc Murdo Base, R1ANF who is expected at Bellingshausen Base, YL Mechita who might be active from DPOGVN from the Neumyer Base and the possible activation of the new German base "Kohnen Station". [TNX The Daily DX and OPDX]

#### Sources

This month our thanks go to SP5IXI, VA3RJ, NE8Z, SP2FAP, SQ5TA, VE3EBN, VE3MR, DL2SL, N3SIG, PA3GVI, K5NX, VE3HO, I2UIY, LA6FJA, YU1AB, The Daily DX, 425 DX News and OPDX for their kind permission to include the above information in DX Notes.

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## What happens?

Colwyn Low VK5UE

On Australia Day evening I decided to try out my multi band dipole on 40 metres. Could only read one AX signal and every thing else too weak to read. Tried the 132 ft. wire and gained a few 'S' points but no more signals. So closed up and decided dipole needs attention. Sunday 27<sup>th</sup> evening turn the 101 on and on 40 metres can read a signal from Puerto Rica. When I go back to the spot there is VE2ZZT

calling CQ I reply and get 5/5. I never fail to be surprised what you can work when you are on the right band with the best aerial at the right time. That is one of the things I like about Amateur Radio the unexpected. My home station is a bit underpowered and the aerial systems are marginal. That is why getting to Canada is good for 5UE.

## Contest Calendar February - May 2002

Feb	2-3	Ten-Ten Intl. QSO Party	(SSB)	
Feb	9-10	WW RTTY WPX Contest	(RTTY)	
Feb	9	Asia-Pacific Sprint	(CW)	
Feb	9-10	PACC Contest	(CW/SSB)	
Feb	16-17	ARRL Intl. DX Contest	(CW)	
Feb	22-24	CQ 160 Metres Contest	(SSB)	
Feb	23-24	REF DX Contest	(SSB)	
Feb	23-24	RSGB 7MHz DX Contest	(CW)	
Feb	24	High Speed Club CW Contests		
Mar	2/3	ARRL Intl. DX Contest	(SSB)	
Mar	9/10	RSGB Commonwealth Contest		(Jan 02)
Mar	9/10	WWL DX Contest	(CW/SSB)	
Mar	16/17	John Moyle Field Day	(CW/SSB/FM)	(Feb 02)
Mar	16/17	Bermuda Contest	(CW/SSB)	
Mar	16/17	DARC SSTV Contest		
Mar	16/17	Russian DX Contest	(CW/SSB)	(Feb 02)
Mar	23/24	CQ WW WPX Contest	(SSB)	(Feb 02)
Apr	6/7	SP DX Contest	(CW/SSB)	
Apr	6/7	EA RTTY Contest		
Apr	12-14	Japan Intl. DX Contest High Bands	(CW)	
Apr	13	PSK31 Rumble		
Apr	13/14	Holyland DX Contest	(CW/SSB)	
Apr	20/21	YU DX Contest	(CW/SSB)	
Apr	25	Harry Angel Sprint		
apr	27/28	Helvetia DX Contest	(CW/SSB)	

Greetings to all readers and contestants. This month it is time to think of the John Moyle Field Day again and I am happy to present both the results for last year and the rules for this year.

This is a good experience for many operators, both those who get out in the paddocks somewhere and those who do it from home. As you can see by the scores, quite high numbers are achieved by both single and multi-operators.

Going out with your gear, even if it just in the car, is quite a different way of approaching a contest situation. Yes, it can be cramped working from a car, but not impossible, especially for a limited time like the six-hours section. A table and a second battery can help here quite markedly, as can a covering over your table. Please consider this very seriously, as your contribution will make for a more interesting and active event.

I hope that you will try to better your score of last year. This will certainly be my aim, but as we shall be moving house about that time it may be a little difficult this year. BUT, don't let things like that stand in your way!!

As you will see from the results, our congratulations this

year go to VK4SK for being the winner of the President's Cup for 2001. Well done and thank you.

Good contesting and 73 de Ian VK3VP

## Result CQ-M DX Contest 2001

First place in Oceania Section Single Operator All Bands QRP Section:

VK3VP/QRP Ian

## Results John Moyle Field Day 2001

from Eric Fittock VK4NEF Contest Manager

### Comments from 2001 JMFD

Our first John Moyle. Bad weather on Friday (wind, dust, rain) made installation difficult and curtailed some portable operators. VK3SWD

It was fun to participate and also to remember John with respect.

I "grew up" radiowise using his designs and know-how. VK3WB 75+

Enjoyed the contest but would be good to see more VHF/UHF SSB activity. VK3KTO

Activity was well down and we were very disappointed at the lack of promotion of the contest. Indeed, because of the alterations to the timing of the distribution of AR magazine,

many members did not even have the contest rules in time for the event. VK4WIZ

Power lead for the 6m gear was left at home, no 6m contacts. Callsign withheld to protect the innocent.

Stn.	Category	Mode	Band	Points	Place
<i>Portable, Six Hour</i>					
VK5SR	Multi-op	All Mode	All Band	1024	* 1
VK3CNE	Multi-op	All Mode	All Band	582	* 2
VK3APC	Multi-op	All Mode	All Band	578	* 3
VK2BOR	Multi-op	All Mode	All Band	510	
VK4WIZ	Multi-op	All Mode	HF	366	* 1
VK2LE	Single	All Mode	All Band	128	* 1
VK2DVZ	Single	Phone	All Band	134	* 1
VK5AIM	Single	Phone	All Band	66	* 2
VK5UE	Single	Phone	All Band	58	
VK3YE	Single	All Mode	HF	96	1
VK4SK	Single	CW	HF	88	** 1
VK4BAF	Single	Phone	HF	160	* 1
VK3AUC	Single	Phone	HF	32	
<i>Portable, 24 Hour</i>					
VK4WIS	Multi-op	All Mode	All Band	4894	* 1
VK3ER	Multi-op	All Mode	All Band	4096	* 2
VK2HZ	Multi-op	All Mode	All Band	2088	* 3
VK3SWD	Multi-op	All Mode	All Band	1608	
VK4CHB	Multi-op	All Mode	All Band	1490	
VK4BAR	Multi-op	All Mode	All Band	1086	
VK3GH	Multi-op	All Mode	All Band	956	
VK2IBT	Multi-op	All Mode	All Band	336	
VK4IZ	Multi-op	All Mode	HF	1742	* 1
VK4QD	Multi-op	All Mode	HF	1056	* 2
VK5BAR	Multi-op	All Mode	HF	596	* 3
VK5GRC	Multi-op	All Mode	HF	424	
VK4WIT	Multi-op	All Mode	HF	314	
VK4EV	Single	All Mode	HF	134	* 1
VK4JM	Single	Phone	All Band	672	* 1
VK3WB	Single	Phone	All Band	140	
VK7JGD	Single	Phone	HF	156	* 1
VK5AR	Single	Phone	V-UHF	1728	* 1
VK4IS	Single	Phone	V-UHF	832	
<i>Home, 24 Hour</i>					
VK4FJ	Home	All Mode	All Band	188	* 1
VK2CZ	Home	All Mode	All Band	181	* 2
VK4GWC	Home	All Mode	All Band	140	* 3
VK3VP/QRP	Home	All Mode	All Band	92	
VK5ADD	Home	All Mode	All Band	83	
ZL2AOI	Home	All Mode	All Band	83	* 1
VK4DO	Home	All Mode	All Band	72	
VK3KQB	Home	All Mode	All Band	70	
VK2GCE	Home	All Mode	All Band	43	
VK3JSS	Home	All Mode	All Band	41	
VK5RG	Home	All Mode	All Band	40	
VK2QV	Home	All Mode	All Band	40	
VK3PP	Home	All Mode	All Band	36	
VK4ASM	Home	All Mode	All Band	36	
VK4PJ	Home	All Mode	All Band	34	
<i>Home, 6 Hour</i>					
VK3KTO	Home	All Mode	All Band	81	* 1
** = Presidents Cup winner VK4SK					

# John Moyle Field Day Contest 2002

Presented by Eric Fittock VK4NEF

16 – 17 March, 2002

0100 UTC Sat – 0059 Sun

Well, once again those who enjoy a weekend in the bush should be planning for this year's John Moyle Field Day. The rules are the same as last year.

If anyone wishes to contact me privately to discuss rules etc, my home phone number is 07 3390 5664, and my address is as shown in the Log Submission section below. I wish all entrants good luck, and look forward to hearing you on air during the contest!

## Overview

1. The aim is to encourage and provide familiarisation with portable operation, and provide training for emergency situations. The rules are therefore designed to encourage field operation.
2. The contest takes place on the 3rd full weekend in March each year, and runs from 0100 UTC Saturday to 0059 UTC Sunday, 16-17 March 2002.
3. The contest is open to all VK, ZL and P2 stations. Other stations are welcome to participate, but can only claim points for contacts with VK, ZL and P2 stations.
4. Single operator portable entries shall consist of ONE choice from each of the following (e.g. 6 hour, portable, phone, VHF/UHF):
  - a. 24 or 6 hour;
  - b. Phone, CW, or All mode;
  - c. HF, VHF/UHF or All Band.
5. Multi-operator portable entries shall be All mode, and consist of ONE choice from each of the following:
  - a. 24 or 6 hour;
  - b. HF, VHF/UHF or All Band.
6. Home and SWL entries may be either 24 hour or 6 hours, All mode, All band.

## Scoring

7. Portable HF stations shall score 2 points per QSO.
8. Portable stations shall score the following on 6m:
  - a. 0-49 km, 2 points per QSO;
  - b. 50-99 km, 10 points per QSO;
  - c. 100-149 km 20 points per QSO;
  - d. 150-199 km 30 points per QSO;
  - e. 200-499 km 50 points per QSO;
  - f. 500 km and greater, 2 points per QSO.
9. Portable stations shall score the following on 144MHz and higher:
  - a. 0 to 49 km, 2 points per QSO;
  - b. 50 to 99 km, 10 points per QSO;
  - c. 100 to 149 km, 20 points per QSO;
  - d. 150 km and greater, 30 points per QSO.
10. For each VHF/UHF QSO where more than 2 points is claimed, either the latitude and longitude of the station contacted or other satisfactory proof of distance must be supplied.

11. Home stations shall score:

- a. Two points per QSO with each portable station.
- b. One point per QSO with other home stations.

## Log Submission

12. Logs must be accompanied by a summary sheet showing: callsign, name, mailing address, section entered, number of contacts, claimed score, location of the station during the contest, and equipment used, and a signed declaration stating "I hereby declare that this station was operated in accordance with the rules and spirit of the contest". For multi-operator stations, the names and callsigns (legible) of all operators must be listed.
13. Logs must be postmarked no later than 27 April 2002, and forwarded to: "John Moyle Contest Manager, 108 Queensport Road, Murarrie Qld 4172, Australia". An ASCII text copy on a MS-DOS floppy disc would be most helpful. Alternatively, logs may be e-mailed to: [esr@powerup.com.au](mailto:esr@powerup.com.au) Logs sent by disc or e-mail must include a summary sheet and declaration, but the operators name (legible) is acceptable in lieu of a signature.

## Certificates and Trophy

14. At the discretion of the Contest Manager, certificates will be awarded to the winners of each portable section. Additional certificates may be awarded where operation merits it. Note that entrants in a 24 hour section are ineligible for awards in a 6 hour section.
15. The Australian portable station, CW section, with the highest CW score will be awarded the President's Cup, a perpetual trophy held at the Executive Office, and will receive an individually inscribed wall plaque as permanent recognition.

## Disqualification

16. General WIA contest disqualification criteria, as published in Amateur Radio from time to time, applies to entries in this contest. Logs which are illegible or excessively untidy are also liable to be disqualified.

## Definitions

17. A portable station comprises field equipment operating from a power source, e.g. batteries, portable generator, solar power, wind power, independent of any permanent facilities
18. All equipment comprising the portable station must be located within an 800m diameter circle.
19. A single operator station is where one person performs all operating, logging, and spotting functions.
20. A single operator may only use a callsign of which he/she is the official holder. A single operator may not use a callsign belonging to any group, club or organisation for which he/she is a sponsor except as part of a multioperator entry.

21. A multioperator station is where more than one person operates, checks for duplicates, keeps the log, performs spotting, etc.
22. A multioperator station may use only one callsign during the contest.
23. Multioperator stations may only use one transmitter on each band at any one time, regardless of the mode in use.
24. Multioperator stations must use a separate log for each band.
25. A station operated by a club, group, or organisation will be considered to be multioperator by default.
26. None of the portable field equipment may be erected on the site earlier than 28 hours before the beginning of the contest.
27. Single operator stations may receive moderate assistance prior to and during the contest, except for operating, logging and spotting. The practice of clubs or groups providing massive logistic support to a single operator is, however, totally against the spirit of the contest. Offenders will be disqualified, and at the discretion of the manager, may be banned from further participation in the contest for a period of up to 3 years.
28. Phone includes SSB, AM and FM.
29. CW includes CW, RTTY, and packet.
30. It is not expected that any other modes will be used in the contest, but if they are, they shall be classed as CW.
31. All amateur bands may be used except 10, 18 and 24 MHz. VHF/UHF means all amateur bands above 30 MHz. Note: On 6 m, the region below 50.150 has been declared a contest free zone, and contest CQ's and exchanges may

only take place above this frequency. Stations violating this rule will be disqualified.

32. Cross-band, cross-mode and contacts made via repeaters are not permitted for contest credit. However, repeaters may be used to arrange a contact on another frequency where a repeater is not used for the contact.
33. Stations may make repeat contacts and claim full points for each one. For this purpose, the contest is divided into eight consecutive three-hour blocks: 01-0359, 04-0659, 07-0959, 10-1259, 13-1559, 16-1859, 19-2159, 22-0059 UTC. If you work a station at 0359 UTC a repeat contact may be made after the start of a new block providing, they are not consecutive or are separated by five minutes, since the previous valid contact with that station on the same band and mode.
34. Stations must exchange ciphers comprising RS(T) plus a 3 digit number commencing at 001 and incrementing by one for each contact.
35. Portable stations shall add the letter "P" to their own cipher, eg. 59001P.
36. Multioperator stations are to commence each band with 001.
37. Receiving stations must record the ciphers sent by both stations being logged. QSO points will be on the same basis as for Home Stations, unless the receiving station is portable.
38. The practice of commencing operation and later selecting the most profitable operational period within the allocated contest times is not in the spirit of the contest, and shall result in disqualification. The period of operation commences with the first contact on any band or mode, and finishes either 6 or 24 hours later.

## World-wide WPX Contest

*SSB: 23 - 24 March*

*CW: 25 - 26 May*

*0000z Sat - 2359z Sun*

**OBJECT:** to work as many stations world-wide as possible.

**BANDS:** 160 - 10m (no WARC).

**CATEGORIES:** single operator single or all-bands; unrestricted power, low power (max. 100W o/p). QRPP (max. 5W o/p); multi-operator single or multi-tx, all bands only. Single operator stations are where one person performs all operating, logging and spotting functions. NOTE: single operators may only work 36 out of total 48 hours' operation. Off periods must be at least one hour and clearly marked in log. No time limits apply to multi-operator stations. Multi-multi stations must have all txs located within a 500m diameter circle or within property limits of licensee's address, whichever is greater. All antennae must be physically connected by wires to station txs and rxes.

**EXCHANGE:** RS(T) plus three-digit number starting at 001, continuing to four digits if necessary. Multi-tx stations must use separate numbers for each band.

**SCORE:** three points (20/15/10m) or six points (160/80/40m)

for contacts with stations on different WAC continents and one point (20/15/10m) or two points (160/80/40m) for contacts with stations within same WAC boundary. QSOs with stations in same country are permitted for multiplier credit, but have zero points value.

**MULTIPLIER** is total number of prefixes worked on all bands (each prefix counted once only regardless of the number of different bands on which it is worked).

**FINAL SCORE** is total QSO points X total multipliers.

**LOGS** must show times in UTC, breaks and prefix multipliers first time worked. Logs should be checked for duplicates, correct points and multipliers. They should be accompanied by a sorted alphanumeric list of prefix multipliers and a summary sheet showing call, name, address, category, power, scoring information and a signed declaration that all contest rules and radio regulations have been observed.

**SEND LOGS** by disk. CT's \*.bin file or \*.all; N6TR's \*.dat file; NA's \*.qdf file or \*.dbf files are preferred. ASCII file

containing all information is acceptable. Disk files must be in chronological order for single operator and multi-station and chronological order by bands for multi-multi stations. Please label disks and name your files with call used (eg VK3JS.BIN or VK3JS.DAT). Disks will be required from top-scoring stations. Send by **5 May** (SSB) or **7 July** (CW) to: WPX Contest, 76 N Broadway, Hicksville, NY 11801, USA. Indicate SSB or CW on

envelope. Logs may be sent via e-mail to: <n8bjq@erinet.com>

To be eligible for **AWARDS**, single operator stations must show at least 12 hours' operation and multi-operators 24 hours' operation. Single band entries showing points for more than one band will be judged multi-bands unless otherwise specified.

## Russian DX Contest

16/17 March

1200 Sat - 1200z Sun,

**BANDS:** 160 - 10 m (no WARC).

**SECTIONS:** Single Operator; CW, Phone, Mixed; single or all bands.

**MODES:** CW, SSB Mixed.

**EXCHANGE** RS(T) plus serial number starting with 001.

Russian stations will send serial number plus two-letter Oblast code (max 88 + 3 on each band).

**SCORE:** 10 points per Russian QSO, five points for QSOs with stations on another continent, three points for stations in the same continent and two points with your own country. Continents as per WAC.

**FINAL SCORE** is total QSO points by number of DXCC countries and Russian Oblasts worked on each band.

**SEND LOGS** and summary sheets postmarked by 11 April 2002 to: Contest Committee SRR, PO Box 59, 105122 Moscow, Russia.

Oblast designators are:

AB AD AL AM AO AR BA BO BR BU CB CK CN CT CU DA  
EA EW GA HA HK HM IR IV JA JN KA KB KC KE KG KI  
KJ KK KL KM KN KO KP KR KS KT KU LO LP MA MD  
MG MO MR MU NN NO NS NV OB OM OR PE PK PM  
PS RA RO SA SL ST SM SO SP SR SV TA TB TL TM TN  
TO TU TV UD UL UO VL VG VO VR YA.

ar

## 21ST ALARA Contest Results

25/26th August, 2001

Gwen VK3DYL	786	Top score overall, Top score VK YL, Top phone score, Top VK3 Alara member
Bev VK4NBC	412	Top VK Novice, Top VK4 Alara member
Bev ZL1OS	381	Top DX YL, Top ZL Alara member
Susan VK7LUV	311	Top VK7 Alara member
Alex ZL1BVK	311	Top ZL OM
Pat VK3OZ	298	Top VK YL CW (Florence McKenzie Trophy - 55 pts)
Bex VK6DE	298	Top VK6 Alara member
Elizabeth VE7YL	257	Top VE Alara member
John VK5NJ	246	Top VK OM
Christine VK5CTY	235	Top VK5 Alara member
Noel VK3FGN	179	
Alan VK7JAB	171	
Dot VK2DB	169	Top VK2 Alara member
Robyn VK3WX	164	
Meg VK5YG	162	
Marilyn VK3DMS	124	CHECK LOG
Celia ZL1ALK	110	

John VK3MGZ	109	
Jacqueline ZL1JAG	106	
Townsville ARC	93	Top VK Club station (using special callsign VI4FLG)
Margaret VK4AOE	91	
Biny ZL2AZY	85	
Alwyn ZL1CCJ	85	
Justin VK7KTW	80	
Bron VK3DYF	76	
Evelyn VK4EQ	48	Top VK YL non-member
Elva ZL1BIZ	41	
Jenny VK5ANW	36	
Mavis VK3KS	33	
John VK2JJS	30	
Chris VK2LCD	30	

### Summary:

VK Alara members	14	(Includes 1 check log)
DX Alara members	6	
VK YL non-member	1	
VK OMs	7	
DX OMs	2	
Club Stations	1	
<b>Total logs</b>	<b>31</b>	

# Harry Angel Sprint 2001 Results

from Trent VK4TI

This sprint contest, open to all Amateur Stations and SWLs honours the late Harry Angel VK4HA. Harry who passed away at the age of 106 in 1998 was at the time Australia's oldest living Radio Amateur. Harry served in the Middle East and other areas during the First World War. The Sprint is unique as it lasts for 106 minutes, Harry's age, in place of the customary 60 minutes.

What a great turnout! The average logs showed a score of 31 points compared with last year's average of 24. Well done fellows.

**VK2AYD David** jumped to top spot breaking the VK5 stranglehold on the event. David's efficient use of both modes made the difference.

**VK5NJ** was right up there again managing to be only just pipped by one point using his new horizontal loop! Stewth, his first contact was K9DX so it figures he might have thought "I've got this one in the bag..."

Harry Angel regular **Mick VK4ABV** was top VK4 competing in the mixed mode category.

Top phone score was former winner **Kevin** operating the club callsign **VK5SR**.

This is now the third year of the test and the results still show that interest is high.

Thank you again for your participation and thank you to everyone for supporting VK4 contesting

Trent VK4TI

Certificates will be despatched by the first week of January. If you do not receive yours, contact me direct on email [vk4ti@radiomag.com](mailto:vk4ti@radiomag.com) or phone 0408 497550

## Comments from the Logs:

**VK5XE Ian Northeast—**

Thanks for the contest it was a bit of a lonely affair after the first 45 minutes but had fun and not much QRM

**VK3VP Ian—**

Not a huge number of CW signals but good to hear some (Better check that antenna Ian after 5NJ's results)

**VK4GZ Ron—**

There appeared more activity this year. The number of CW operators was up and it was pleasing to see the ZLs involved.

**VK4TI—**

I lost my own log!

Callsign	Category	Score
VK5NJ	C	62
VK2KM	C	34
VK5XE	C	34
VK3VP	C	28
VK8AM	C	16
VK2AYD	M Trophy	63
ZL2AJB	M	39
VK4ABV	M	36
VK4GZ	M	35
VK5UE	M	6
VK5SR	P	45
VK4AJ	P	32
VK2JAH	P	22
VK7JGD	P	21
VK4JM	P	20
VK2KST	P	19
VK3ABP	P	12
VK2MQX	P	4

# Classification of Emissions: Episode 3

Henry ANDERSSON VK8HA, FedIWCOORD  
VK8HA@OCTA4.NET.AU

- 1.6) Cases not covered above, in which an emission consists of the main carrier modulated, either simultaneously or in a pre-established sequence, in a combination of two or more of the following modes: amplitude, angle, pulse W

1.7) Cases not otherwise covered X

2) Second symbol - nature of signal(s) modulating the main carrier

2.1) No modulating signal 0

2.2) A single channel containing quantized or digital information without the use of a modulating sub-carrier 3 1

2.3) A single channel containing quantized or digital information
- with the use of a modulating sub-carrier 3 2

2.4) A single channel containing analogue information 3

2.5) Two or more channels containing quantized or digital information 7

2.6) Two or more channels containing analogue information 8

2.7) Composite system with one or more channels containing quantized or digital information together with one or more channels containing analogue information 9

2.8) Cases not otherwise covered x

3) Third symbol - type of
- information to be transmitted 4

3.1) No information transmitted N

3.2) Telegraphy - for aural reception A

3.3) Telegraphy - for automatic reception B

3.4) Facsimile C

3.5) Data transmission, telemetry, telecommand D

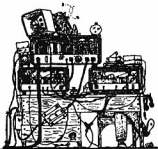
3.6) Telephony (including sound broadcasting) E

3.7) Television (video) f

3.8) Combination of the above W

3.9) Cases not otherwise covered X

Happy 2k2 and see u next month de  
Henry vk8ha VK8HA@OCTA4.NET.AU



# Ham Shack Computers

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## Part 11 "Digital Modes"

Amateur Radio Magazines from around the world regularly quote Internet addresses, digital circuits and devices, and computer software offering enhanced AR operation. However, if you are not "into" the Internet, or short on computer knowledge, then most of these references tend to be ignored. Making a start in the digital world is the hard part, but once started, your enjoyment of the hobby will be much enhanced.

### Digital Roundup

Aside of the fact that all the new digital modes require the use of a computer in your Ham Shack, they can be divided into two key groups.

1. Fuzzy Modes like Morse Code, RTTY, PSK31(1), PSK63F, PSK125F, MFSK8, MFSK16, MFSK31, Hellschreiber, SSTV etc. These are keyboard-to-keyboard modes used for chatting, contests, and DXing mainly on the HF bands. They are called "Fuzzy Modes" because there is no error correction and rely on operator interpretation to fill in gaps and errors during a QSO.

2. Correction modes are those with interactive data verification to minimise errors, and they include VHF/HF Packet, PSK63F, Amtor, Pactor, Pactor II, Clover, MT631K etc. Newer modes include HSCW (High Speed CW) and WSJT by Joe Taylor, K1JT.(2)

G3FDU(3) studied some of these new modes (see adjacent Fig. 1) including data from ZL1BPU(4) who devised MFSK16 implemented by IZ8BLY in his program - Stream(5). G4JNT also argued (6) about the poor spectrum usages of FSK on HF packet. He mentions ...the concern of beginners in datamodes these days of incompatible modes coming on the bands all using sound cards and simple interfacing hardware.

*It is now easy for DSP software writers to come up with yet another modulation and coding system...*

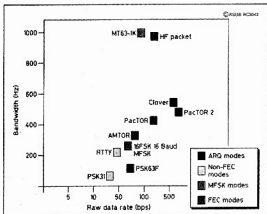


Fig 1: Relative speeds and bandwidths of data modes.

Source: BARTG

### What Now?

The writer has been using various forms of digital communications for many years - since the early days of RTTY using surplus mechanical teleprinting equipment. Over the last 10 or so years, with the help of personal computers, much of the readily available software packages from the Internet have been extensively tried and tested.

Most of the newer packages are mainly used for amateur experimentation, and it's safe to suggest that a high percentage of these packages have faults, bugs, and other problems when operating in a Windows® environment. There is a huge amount of "rubbish" available for download on the Internet. However, assertive software writers have produced some excellent software that has settled down to become very popular

worldwide. RTTY and PSK31 would have to be the trendsetters these days on the HF bands. For VHF/UHF packet enthusiasts, WinPack (7) is excellent. However, to save and retrieve archived files, WinPack also needs WinPMail (8) to complete the installation. Some popular AR software packages need further work to be done before they are released into the public domain. Very few can be said to be totally reliable, easy to install (or uninstall), set up and operate in an active AR station.

### Getting Started

**Example 1.** Assume that you own an old faithful Kenwood TS520S, and a multi-band vertical antenna in a small garden or hanging from the back porch. In addition, the family have donated a Pentium 1, 75MHz computer with an 850Mb hard drive, 16bit SoundBlaster audio card, a CD-ROM and say 16Mb of memory. This will do fine to get started on PSK31 using DigiPan software. All you need to add in terms of hardware is a simple interface box to connect the input and output tones between the transceiver and the soundcard (1).

**Example 2.** If you are active on VHF FM, why not try packet radio messaging with WinPack (7). All that's needed is a low cost interface modem (BayCom) and the same computer described in example 1 above. Packet radio offers worldwide contact with no network fees like trying to access the Internet. Ask your local colleagues or club members about packet radio, and watch a demonstration in a friend's Ham Shack.



**Example 3.** You are the proud owner of a new Icom IC756PRO feeding a nice new Vectra linear feeding a multi-band log periodic antenna at 90 feet. Contesting is your passion on CW/RTTY and you are a computer whiz. Exactly the same interface is required (1) suggested in example 1. Adding YPlog, Rotor E-Z, HamScope, DigiPan and MMTTY you will be able to do everything described in this Ham Shack Computers series and much more with ease - ALL with the same old recycled Pentium 1/75 computer above. Very nice indeed! Add the FM packet system from example 2 above, and you'll be spot-watching the international packet DX Cluster nodes and operating HF all at the same time!

## Fancy Stuff

Many AR operators seem to have a shack full of gear, which they like to show off to visitors. However, when it comes to the crunch, most of the gear is non operational, or even connected together!

Obviously, these operators need to rethink their direction, connect the HF, VHF/UHF systems to their respective antennas etc, and interface the key components to a single computer management system. Simple free software is now available to operate these fancy new modes suggested in this article. From now on, the sky is the limit with many hours ahead experimenting with different software packages until you decide on the ones that suit your personal desires the best.

One reader in Melbourne explained to the writer saying he had lost interest in Amateur Radio until he had read "PSK31-The Easy Way"(1). After, hooking up the interface, loading DigiPan and setting the soundcard input and output levels, worldwide PSK31 contacts came thick and fast. He said that his interest was now restored, and the fun came back into his hobby. Many others have responded in the same way, so if you are pondering about these newfangled digital modes, the time has never been better to upgrade your station and join in the fun. If you are in difficulties, try sending a message to the writer, you might be surprised by the results! (9).

## Getting Serious

Running digital modes from a modern transceiver has its problems too. For example, PSK31 runs in the SSB/USB mode with a Varicode tone modulated signal accurately adjusted to keep the SSB intermodulation products well below -25dB. The RX passband is limited to the usual 300-4,000Hz, and variable IF passband adjustment is needed to improve reception especially during busy contests. Ideally, the transceiver should have a special narrow band PSK filter but this is not easy when there are no spare filter options in the transceiver. Adding external audio DSP hardware (a Timewave DSP9 etc) will improve the random noise problems by a good 10dB or more allowing "noise floor" reception of weak PSK stations. RTTY contest enthusiasts will find MMTTY options to manipulate the DSP settings for their sound cards. In addition, readers will be impressed with DigiPan used as a spectrum scope for any mode. Once tried, this will become an essential tool in your digital arsenal.

## Future Trends

Weak Signal Communications (WSC) can be applied to any AR application especially VHF/UHF/SHF, EME and transcontinental long haul HF, and satellite work. Meteor scatter (MS) followers now use WSJT (2) software on 2M VHF to win distance records with MS and other means of signal refraction. WSJT (designated FSK441) is the favourite in high speed meteor scatter (HSMS) using "pings" reflected from the underdense ionisation trails of random meteors at about 100Km in height.

FSK441 uses FSK at 441Hz. Four distinct tones are used, namely 882, 1323, 1764, and 2205Hz. Each encoded character uses three tone intervals and therefore requires 3/441 seconds (approx 2.3mS) for its transmission. FSK441 accommodates a potential "alphabet" of 48 characters. These characters are sent repeatedly amounting to pure single-frequency carriers, and their pings are easily recognised by the software and the human ear, and converts noise floor SO and S1 pings into solid copy!

Whilst FSK441 is currently used for MS and EME work, other applications include VHF/UHF communications interstate by bouncing signals at HSCW from airliners flying the regular routes between Australian capital cities. It's

even possible to span the Pacific using the same technique. At least, the airline schedules are more regular than the Perseids!

The future is very bright indeed, and there is plenty of room for research, development, and experimentation by today's average RA. Long haul VHF/UHF Dxing becomes a reality once local and national/international beacons start using automated PSK/WSJT, in addition to conventional CW for identification. Some circles suggest Slow Speed CW (SSCW) can resolve signals some -10dB below the noise floor.

For beginners, all this might seem overwhelming. But once you bravely make a small start and gain confidence, then the dividends will outweigh the effort and personal enjoyment follows. Digital Modes is a vast topic that would fill huge textbook let alone two pages in this magazine. Talk to your club mates, ask their advice, watch a demonstration, and have a go yourself.

### Ham Tip No. 11

Listen between 14.065 and 14.095 Mhz any time of day. Strange "warbling" signals can be heard even when the SSB and CW segments seem closed. These are the wonderful digital modes at work.

**Next month,** Ham Shack Computers, No: 12 *Computer Phobia* is real basic stuff for those readers who are afraid to even try using a computer, thus preventing them from enjoying the delights of modern Amateur Radio. A thought-provoking article for readers prepared to be honest and admit the real underpinning truth to themselves!

## References

- (1) PSK31-The Easy Way. AR March 2000 and June 2001 by VK6PC.
- (2) WSJT Hitting WS VHF MS by Storm. CQ Magazine Oct 2001 by N6CL. <http://pulsar.princeton.edu/~joe/k1jt>
- (3) Recent Keyboard Modes Compared. In Mercury, the RSARS Journal, March 2001 by G3FDU.
- (4) <http://www.qsl.net/z1lbp>
- (5) <http://.I28BLY.sysonline.it>
- (6) Data: Modes Compared. RSGB RadCom. October 2001 by G4JNT.
- (7) Roger Barker, G4IDE. WinPack at <http://peaksys.co.uk>
- (8) Mike Marriott, G4OPC.
- (9) Ham Shack Computers Web Site: <http://www2.tpg.com.au/users/vk6pg>

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# That old "Chestnut" Calling Frequencies!

Soapbox time! Once upon a time we didn't have calling frequencies. Before the days of stable VFOs almost everyone was crystal locked to a favourite frequency arrived at by good luck more than good management. Some operators had more than one crystal but most had their pet frequencies. Who can remember, "Calling CQ and tuning from the band edge up, what say someone please!"

Then around 1972-1975 it all changed. AM disappeared quicker than the dinosaurs did 65 million years before. Suddenly everyone had a VFO. As everyone migrated from their Pet frequencies under the notion that we had to squash together in 100kHz or less it left a dilemma, where do we "park" the VFO? Enter calling frequencies! 52.050 & 144.100 MHz were arrived at as they loosely straddled the CW and SSB segments. AM had by now been relegated to the wasteland beyond 0.2.

Ever since then countless attempts have been made to police calling frequencies but with varying success. If the band is wide open with rare DX the notion of a band plan even existing usually goes out the window ... of course, people will bend the rules on the calling frequency! You can bet that the only place you will raise activity is where everyone else's receiver is parked, the calling frequency! If you QSY off the calling frequency all those others with their VFOs parked won't be able to hear you so better stay there and make a noise. Catch 22 isn't it. It's not the Calling Frequency at fault, it's the thinking behind it.

Lets put an old idea back into the scene but in a different way, let's talk about "Centres of Activity". Those who were fortunate enough to take part in last years Leonids Meteor activity would have experienced what it is like to have 80 plus stations spread between 144.095 and 144.120 MHz with 80% of the activity on 144.1 MHz. I heard many try and do the right thing by QSYing up and down the band but 80% of the contacts to be had were on 144.1MHz. That notch in the VFO optic coupler or the Gear drive is pretty deep!

I'll use 144 MHz as my example but it

equally applies to 50 MHz and perhaps less to 432 MHz and above. Imagine, during the Leonids, if we had all been a bit better organized prior and nominated not one frequency but 5 or 10 "Centres of activity" say 10 kHz apart. On each of the "centres of activity" there would be some knowledge of who would be there or what geographical location could be worked (eg. country area).

Just how you divide things up is open to comment. Maybe we do it this way. Lets, for the exercise, call 144.100 to 144.250 our segment where VKs & ZLs want to work each other. North/South contacts are on Odd tens (144.11, 144.13, 144.15) and East/West are on even tens (144.12, 144.14, 144.16 and so on). That means that in built up areas if everyone is working in one direction only you have 20 kHz separation, not perfect better than being on top of each other! You can still move plus or minus 5 kHz to pick up a secondary contact if you are out of an area and QRM isn't a problem. You can then carve up frequencies to more geographical areas starting from the end of circuits and working back.

How these centres of activity are allocated and used then takes a more local focus. Eg. VK6 Albany/Perth could be nominated 144.160 MHz, VK7 could be 144.190 MHz and VK4 could be 144.130MHz. Specific country areas then have subsets of these. The centre of activity can also be made more specific, eg. WSJT is centred on 144.140 MHz or Liaison for Upper UHF/ Microwave contacts is centred on 144.250 MHz. As the band opens or additional stations come on they slide up and down. If one area is particularly active then this could spill over to another, it doesn't really matter. If you want to work VK6 you know where to

look, plus or minus a bit and it isn't on the same frequency as the ham down the road working a country station in a different direction.

If the band opens to one or more areas you then have multiple centres of activity. If you live at a cross road such as VK2, 3 & 5 where you listen will then depend on where you point your antenna and what you want to work! Its no different to how a trunking two way radio system works but perhaps not as regimented as the local Radio Control Model Aero club with coloured pegs for assigning unique frequencies to avert co-channel interference (read expensive prangs!).

Ah yes, but how do you keep up with all the activity. How can you listen on the potential 10 or 15 frequencies? Tune or scan around! Most sets being used now have scanning facilities than can set up to run through frequencies, a lot use the facility for looking at beacons so what's the difference? And chances are you are only going to have 3 or 4 centres to cover from any one given area. Hey they did it in the old days, remember ... tuning from the band edge up! Lets flatten out that big spike on the calling frequencies!

## 6 Metres

John Martin, VK3KWA reports.. VHF-UHF records have been updated with two new 6-metre records.

National Digital Mode record: VK3AMK to JL4GTO, 03/01/99, distance 8234.0 km.

VK3 State Long Path record: VK3OT to LU7DZ, 20/04/91, distance 28319.8 km.

The following files (Word 97 RTF format) are available on request: VHF Records 2002-1 (13 kb) - List of current VHF-UHF records. VHF Records History (68 kb) - List of all VHF-UHF records

since 1947. VHF Record Claims (10HF - Terms and conditions for VHF-UHF record claims, and a claim form... John VK3KWA

Steve VK3OT reports .... 31/12/2001 -band is still open to Europe since 0700z and also Middle East A45, JY9, HZ1, 4X/4Z OD5 5B4/ZC4, F, DL, SP, 9A, OK/OM, I, SS, YU, SV, UK9 UAO, mni VK2/3 area QF02/12/21/22/32 also ZL3 to ME/5B4. Sporadic Es to VK6 / VK8 at same time. Last DX heard calling at 1100Z was JY9NX calling ... Steve VK3OT

## 2002 Summer Field Day

Barry VK3BJM reports ... Almost ancient history now, but my notes from last weekend's field day are as follows:

Mt Moliagul would be a really, really good spot, except for the existing RF installations. These apparently include a 2m packet repeater and a 70cm voice repeater. Certainly something up there was densifying my 2m receiver - 5x9 signals would drop to 5x0.5 - though I managed to survive all that, and didn't lose any contacts as a result. The high points were ...

[1] Working 3 VK5 portable stations all through the 24 hours; propagation to the SW/Mt Gambier area really ramped up into Saturday evening/Sunday morning. Would have been interesting trying 23cm to VK5AR/p. The Adelaide beacon was audible for the whole contest, too. I thought I'd lost it just after sundown on Saturday, but it turned out that the frequency of the beacon dropped 300Hz, which took it out of range of my narrow CW filter...The levels of the 2 VK5 beacons to my location was noticeably different to that of stations only 100km or so further south of me, on several occasions during the contest.

[2] General level of activity on 23cm - plenty of contacts on that band. Being the first contact to Darryl VK3XQD, @ Welshmans Reef, on 23cm via his rhombic! Activating QF13 on 23cm to several stations.

[3] Plenty of stations on air in the SW of the country, both home and portable (and mobile!).

Not so high points:

[1] Propagation to the NE was not so flash. Heard nothing all Saturday and Sunday morning AEP produced signals that were less

than startling. Heard Gordon, VK2ZAB and Guy, VK2KU, calling towards Bendigo numerous times, but could not make myself heard. It was good to make it as far as Murrumbateman and Canberra.

[2] No contacts on 2.4GHz, despite many attempts with Charlie, VK3FMD, and every suggestion from the signals observed on 23cm that we would have a chance. Nothing was heard in either direction. Much head scratching has ensued - from my end I'm endeavouring to pep up the RX, the TX and the dish size... Leave nothing to chance, I reckon. ...Barry, VK3BJM

Andrew Davis VK1DA reports ... Chris VK1DO and Andrew VK1DA operated VK1ACA from Red Hill, a low ridge at the south end of the main Canberra city area. Our site was several metres away from blackened grass and trees, the result of recent bushfires, which swept up the Red Hill ridge.

Saturday night: no VK3 signals heard, several locals and one near Sydney, 7 contacts in all, 4 on 144 and 3 on 432. We packed up the station at 10pm and went home to sleep. Sunday morning from 2004 to 2300 UTC: 20 contacts; 14 on 144, 3 on 432 and 3 on 1296. 5 VK3s on 144, all others except 2KU, Z2AB, 2KRE, were local (Canberra/Queanbeyan/Bungendore).

The 1296 transverter producing very weak signals and the Bird (with 5 W slug) indicated no output. Some major component failure seems likely. The 432 rig also failed to produce reliable output; SWR sensing was cutting power back substantially and this affected transmission quality too. Suspected connector damage but internal inspection of radio revealed no obvious problem.

There were a number of local QRM sources at our site, including birdsies from telemetry gear at the adjacent water reservoir and some repetitive noise. Most operation on 144 required the noise blander engaged and a cavity filter in line. Without the filter the receiver was noticeably densified. There are a number of pager transmitters on the nearby Isaacs Ridge .. Andrew VK1DA.

## 2 Metres and above

This morning Thursday 10 January 2002 we had some propagation between

Hobart and the Sydney area. The weather map shows a strong ridge extending north from south of Tasmania, and passing exactly through both Hobart and Sydney. Contacts were made on 144MHz SSB between Rex VK7MO (at home), Guy VK2KU and Gordon VK2ZAB.

9 Jan 2002 at 2145UTC - VK2ZAB-VK7MO (41)

9 Jan 2002 at 2146UTC - VK2KU-VK7MO (52,41)

Rex was continuously audible in the Blue Mountains until about 2215 UTC at 52.

VK7MO was running 200 W into 1x6 elements. I immediately telephoned Peter VK7KPB (50 W, 1x12) on Flinders Island, but we did not succeed in completing a contact. I could tell Peter was there but could not copy anything. Peter copied occasional words from me...Guy VK2KU

Where is all the activity??? Joe VK5UJ reports at 13:00 UTC 16/01/2002 the following beacons heard VK6REP 5x7, VK5RSE 5x9+40 and VK3RGL 4x1. CQ on 144.1 & 144.2 only taker was another local. At 20:00 UTC 16/01/2002, VK6REP 5x2, VK5RSE 5x9+40 & VK3RGL 5x5. Another CQ on 144.1 & 144.2 no takers! Equipment, no preamp, Kenwood TR751a 25 W and ATN yagi ...Cheers, Joe VK5UJ.

## WSJT

Rex VK7MO reports .. In summary the conclusions of consultation on standardizing WSJT procedures in the VK region are:

1. Use North American Defaults
2. Use the Focus Frequency of 144.230 as far as possible
3. Do not use single tones on the Focus Frequency
4. On the Focus Frequency modify the North American defaults manually to avoid confusion - example below  
CQ VK7MO VK7MO TXing  
VK7MO 2626 VK2FZ 26  
VK2FZ TXing  
VK2FZ R16R16 VK7MO R16  
VK7MO TXing  
VK2FZ RRR VK2FZ TXing  
VK7MO 73 VK7MO TXing  
Essentially this means that a TXing station always identifies on the Focus Frequency
5. Allow for QSYing if a station is suffering interference or wishes to

use single tones for a difficult contact

6. Use the channel format to QSY eg CQ 333 means listening Channel 3 or 144.330

7. Use frequencies of 144.330, 144.340, 144.350, 144.360, 144.370, 144.380 and 144.390 to QSY

Thanks to all who made input to this process.... Rex VK7MO

## Beacon Report

Don VK6HK reports.. All those interested in the VK6 - East Bight path...Wal VK6KZ reports in a visit to Augusta that all three VK6RSW transmitters continue to be operational. However some frequency drift has occurred which it was not possible to correct on this occasion. The current nominal key down carrier frequencies (all FSK) are:-

2m: 144.561 MHz

70cm: 432.563 MHz

23cm: 1296.554 MHz

The beacons feed gain antennas to the east and north from Augusta, which is in the extreme SW corner of VK6, near Cape Leeuwin. In the near future it is intended to replace the present 144 MHz transmitter and increase power from 10 to 50 W.... Don VK6HK

## Microwave Primer Part 21 Epilogue

This is the last in the current series. Thanks go out to the numerous contributors to the Primer, soon to be published on various media. A few have asked along the way, how the various designators, eg. K band and X band, etc came into existence. The following is the best I could come up with...

Microwave band designators go back to WWII, where they were supposed to confuse the enemy as to which frequency radar was being used. Today's designators still resemble the original WWII scheme below (Source 5th ED, Reference Data for Radio Engineers/Howard. W. Sams).

L band: .39 to 1.55 GHz,

S band: 1.55 to 5.2 GHz,

X band: 5.2 to 10.9 GHz

K band: 10.9 to 36.0 GHz

During the 1960's there was a move to rename the microwave bands. You may sometimes see reference to A band or B band, etc on equipment from this era. The scheme never caught on except for

C-band, which fits in between S band and X band. Also at this time K band was been split up into Ka, Ku etc.

Now, due to popular demand (thanks for all the e-mails of support recently) I now introduce the replacement "Microwave Round-up" segment!

### 47 GHz SSB QSO in France on 31 Dec 2001

For the last day of the year 2001, Dominique, F5AXP and Jean-Marie, F6ETU braved the cold, -3 C, and the storm on Mount Tauch (JN12IV). For my part (Michel, F6BVA), weather wise it was no better than going on the slopes of Mount Ventoux in grid JN24PD at 1400m (about 4300 ft) a violent mistral with the temperature at -8°C/18 F. The WX was quite changeable between the morning and the afternoon QSOs. We noted that aluminium boxes were completely frozen!

However, we did make a superb QSO on 47 GHz and we were at 250 km/152 miles. SSB signals were profoundly affected by signal/QSB at levels between 51 -56. In this period of little activity, this merits some lines on the reflector (French Hyper)!!

This QSB did not involve parabola movements as our tripods are stable and the mechanical apparatus was designed to avoid slippage. For my part (F6BVA), I have always stated that QSOs at distances, with or without wind, have multiple causes of QSB. For this QSO of 31 Dec, the trajectory followed very close to the coastal fringe of the Mediterranean. This is a very unstable zone, the hygrometry is very difficult to master in this zone. The force of the northern wind amplifies this phenomenon. There was as well on our path, and this in spite of the wind, a very large unstable mist that diffused and dispersed the signal. But to be more specific, all the contacts made by me in past at more than 150 km on 47 GHz have always been affected by QSB, even those on beautiful days with nice, warm temperatures.

Antennas: F6BVA uses a parabolic antenna of 80 cm (32 inches) in dia. F5AXP uses a 1.2 metre offset

Equipment: The 24 GHz equipment is the basic DB6NT units with amplifiers by G3ACE. On 47.1 GHz the mixer is by DB6NT with about 100 microwatts output. The local oscillators are operated on 12 VDC on both 24 and 47 GHz

It was Michel who had the worst

weather environment on Mt Ventoux and who had to wait for some time before trying a QSO on 47 GHz at 300 km/180 miles which, unfortunately, was not made.

Dominique will send me (W3HMS) pix when the film is finished and processed. ... For Dominique, Jean Marie, and Michel by John, W3HMS, Translator and Editor.

### New Microwave records for VK2 & VK4

Doug VK4OE reports ...during the last week 8-microwave Distance Records were broken. On 8-1-2002 a new VK4 record on 24 GHz was established between Kings Beach, Caloundra and Wellington Point, Brisbane. Previous record was 30km; the new record is 73.8 km.

On 12-1-2002 UTC, just after a weather change line passed through SE Queensland/N'thn NSW in the evening after a memorably hot day, a new VK4 and VK2 record was made on 10 gigs between Byron Bay, NSW and Hervey Bay, QLD. Previous record was 327.8 km; the new record is 380.7 km. On the same night a new VK4 and VK2 record was established on 5.7 gigs over the same path between Byron Bay and Hervey Bay. Previous record was 246km, new record is now 380.7km.

Also on the same night a new VK4 and VK2 record was made on 3.4 Gigs over the same path between Byron Bay and Hervey Bay. Previous record was 246.5 km and new record is 380.7 km. Amateurs on this joint DX operation were: -VK3ZQB Russell, VK3XPD Alan, VK5DK Colin & VK4ZHL Errol. Doug VK4OE

## In closing

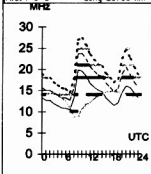
A reminder that the Year 2002 VHF Communications Magazine renewals are now due. Cut-off date is 28/2/2002. Same price as last year, A\$55-00 posted to my QTHR at the top of the magazine. All cheques to be made out to "WJA SA & NT Divn Inc". For those who watch Heyburn's Tropo propagation site note the following alternative address [http://www.globalserve.net/~hepburnw/tropo\\_aus.html](http://www.globalserve.net/~hepburnw/tropo_aus.html)

I'll leave you with this thought.. "It is by logic that we prove, but by intuition that we discover"

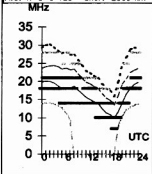
73 David VK5KK

ar

**Adelaide-London 132**  
First F 0-5 Long 23755 km



**Brisbane-Dunedin 148**  
First 1F 5-9 1EO Short 2560 km



**February 2002**  
T index: 107

**Legend**  
UD  
F-MUF  
OMF  
ALF  
10%-50  
50%-90  
90%-10  
Frequency scale  
Time scale

## HF Predictions

by Evan Jarman VK3ANI  
34 Alandale Court Blackburn Vic 3130

These graphs show the predicted diurnal variation of key frequencies for the nominated circuits.

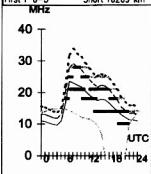
These frequencies are identified in the legend are:-

- Upper Decile (F-layer)
- F-layer Maximum Usable Frequency
- E-layer Maximum Usable Frequency
- Optimum Working Frequency (F-layer)
- Absorption Limiting Frequency (D region)

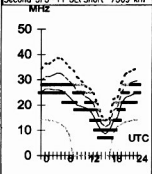
Shown hourly are the highest frequency amateur bands in ranges between these key frequencies, when usable. The path, propagation mode and Australian terminal bearing are also given for each circuit.

These predictions were made with the Ionospheric Prediction Service program: ASAP Version 4

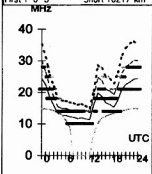
**Adelaide-London 312**  
First F 0-5 Short 16269 km



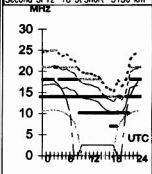
**Brisbane-Honolulu 49**  
Second 3F5-11 3EI Short 7569 km



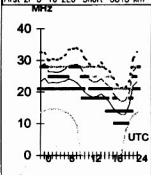
**Canberra-New York 68**  
First F 0-5 Short 16217 km



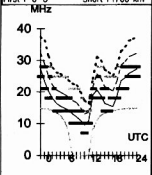
**Darwin-Auckland 130**  
Second 3F12-18 3I Short 5136 km



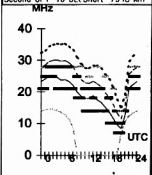
**Adelaide-Manila 338**  
First 2F 3-10 2EO Short 5813 km



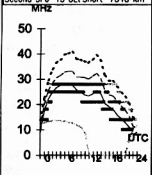
**Brisbane-Miami 79**  
First F 0-5 Short 14760 km



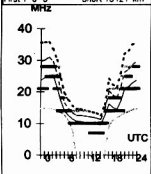
**Canberra-Tokyo 352**  
Second 3F4-10 3EI Short 7948 km



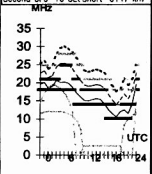
**Darwin-New Delhi 309**  
Second 3F6-13 3EI Short 7345 km



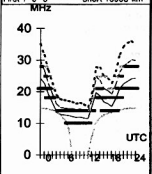
**Adelaide-Vancouver 49**  
First F 0-5 Short 13421 km



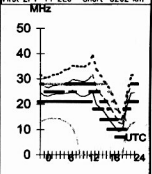
**Brisbane-Singapore 293**  
Second 3F9-16 3EI Short 6147 km

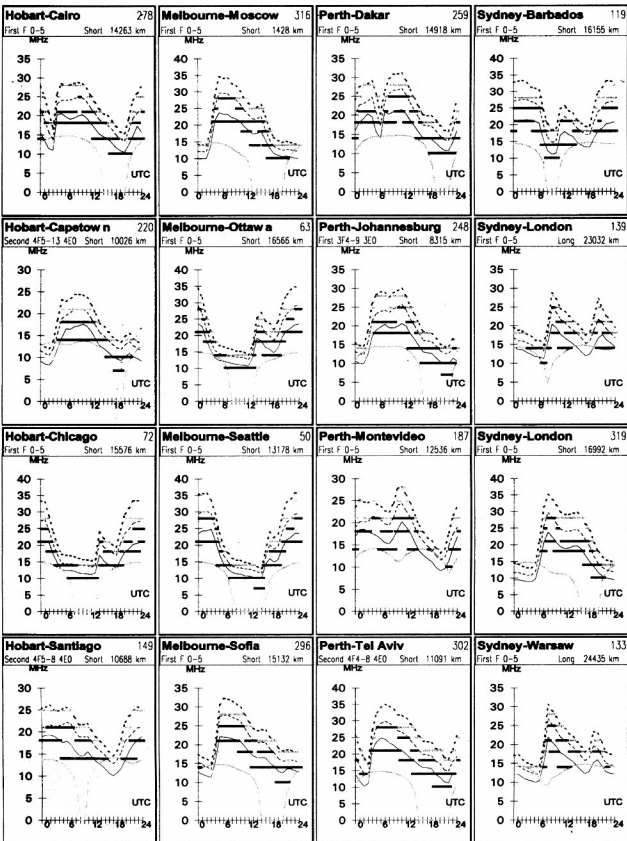


**Canberra-Washington 70**  
First F 0-5 Short 15938 km



**Darwin-Osaka 5**  
First 2F4-11 2EO Short 5262 km





# HAMADS

## FOR SALE QLD

• **Uniden 2020** transceiver. 12 V or 240 V PS. Separate 2nd VFO. Provision for xtals. Spare finals. Instruction book and diagrams \$250 only. VK4PJ QTHR phbrown@powerup.com.au

## WANTED QLD

• **Kenwood remote VFO-820** also **Kenwood transverter 502**, for use on Kenwood TS 820 transceiver. Contact Aub VK4HBA QTHR, email aub@ozemail.com.au, or Phone 3410 0004

• **2625 and 6082 valves.** VK4NS QTHR, email vk4ns599@ozemail.com.au

• **ICOM CW Filter FL-100.** Modern or soundcard interface plus software for PSK31, RTTY, CW, PACTOR, WEATHERFAX. Intended for marine communication/navigation. C.P. Gerhard VK4CPG, PO Box 196, Hervey Bay Qld 4655, email kris.gerhardt@bigpond.com

## FOR SALE SA

• **Icom IC-761** all band TX general coverage Rx SN02112 \$1000. **Kenwood SW-2000 HF** SWR/power meter SN 4040058 \$80. **Welz SP45M** VHF SWR/power meter SN 454505 \$40. **Tet HB-33SP** three element triband antenna \$100. VK5AX QTHR

• **60ft butt section tower** for sale, good condition includes base plate and guy wires dismantled. \$1200.00 only. Stuart D Cameron VK5ADE, email scameron@bigpond.net.au

## WANTED SA

• **Wanted URGENTLY parts for an early model Astor TV** an ESJ model series A and or B preferably one of each part numbers CHOKE L151 & L237 for an old set of great personal value. Prepared to buy a complete chassis that contained ALL parts but would prefer just the nominated chokes. Please advise. I would be prepared to pay postage from any part of VK. VK5ZLC, QTHR. Phone 08 8294 6906

## FOR SALE WA

### WANTED WA

• **NEC VERSA 2730MT Laptop Battery pack** or pinouts for same, dead or alive NiMH or Li-Ion also **"PortBar 2700"** (docking adaptor). Bob VK6KW QTHR, email daybreak.campfarm@bigpond.com Phone 08 9319 1644

• **Icom IC-751A** SSB/CW/FM/AM 1.8 - 30MHz 10w transceiver, including WARC bands and general coverage receive from 10kHz to 30MHz. Complete with IC-HM12 microphone, dual 500Hz CW filters and manual. Excellent condition. \$750. **CDE Ham-M heavy duty rotator**, with controller, lots of rotator cable and manual. Good condition. \$250. Triangular lower mast section and cast iron base of **Hills 57 Teletower**. \$100. Six 'Power Rod' fiberglass fishing rod blanks - 9' 4" long. Suit 21/24/28MHz 2-element delta loop antenna or similar. \$100 the lot. Steve Ireland, VK6VZ. Phone: (08) 9298 9330 or email: sire@iinet.net.au

## FOR SALE TAS

• **Deceased estate VK7FD.** PS 55 power supply coupled to Icom IC735 Xcvr. **Yaesu FT-290R** 2 metre Xcvr. **Kenwood TS-130** Xcvr. **Yaesu FT-200** Xcvr. **Yaesu FT-840** Xcvr coupled to **FC-700 ATU**, **Yaesu FT-411E** 2 metre hand held. **Uniden Bearcat scanner**. 1 20ft 3 leg tower. **Icom IC-735**. Boxes available for most of the gear. All gear well kept. Deirdre Reid Phone 03 6431 5173

• Urgently require operator's **Instruction book for REALISTIC brand DX-394 HF** comms receiver. Willing to pay all photocopy expenses etc. Arthur VK2DKF, Phone 02 4739 8695 or email afoster@bigpond.com.au

## FOR SALE VIC

• **Deceased estate: Daiwa** 2 metre linear amp and PSU \$280 ono. **HF linear amp** 400 W and PSU, price negotiable. **Trio** portable oscilloscope. \$50. **CVS 450** UHF power amplifier \$50. **Leader** grid-dip meter \$60. **O-tech** audio generator \$30. **Icom IC-751A HF** transceiver and **Icom IC PS-30** power supply \$950 ono. Apply VK3DFE QTHR, Phone 03 9807 3995

• Spare **3/500 tube** for linear amplifier. What offers? Alf Chandler VK3LC, 1/09 Grande Classic Residences, 1 Brewer Road, Brighton East 3187.

• **Yaesu FT 757-GX** xcvr. Gen Cov Rx. GC with mic, books etc \$475. **Yaesu FC-700 AT** inbuilt SWR/PWR meter plus dummy load \$100. **FT-690R II** 6 m multi mode xcvr EC \$125. Dick Smith **Powermaster 20 A P/S** \$100. **Philips 828** with 4/2m channels. Book etc \$5. **Shure 444D** Desk mic. \$100. Ron VK3OM QTHR 03 5944 3019.

• **TOWER**, four galvanised triangular commercially made sections, each 1830 long, 250 side 32 diam. pipe, 26 kg. Built-in ladder. Base plate 380x380x11 with mounting bolts. Also two **Hills** 4 section telescopic tubing masts. Any offers? John VK3GF QTHR johnc@anson.com.au Phone 03 5562 5545

• **Yaesu YO-100** monitor scope Serial no. 6J2 13359 Japanese manual only \$50 VK3FIM Phone 03 9802 9475

• **Yaesu FRG7** Rx, unmarked \$150. **Daiwa RF-440** speech processor \$40. **Goldring cardioid** 50k 20052 microphone \$10. 2 element 15 metre Yagi \$50. Mike VK3KTO. Phone 03 5998 7590

## FOR SALE NSW

• **Port Macquarie QTH.** 3 of TET and Tower, see gillpines, 3BR Brick Veneer, plus TS-570 & PS. \$220,000. Ian Dalrymple VK2XU. Phone 02 6564 9922

• **WW2 transmitter type 88**, N - X bands, s/n MRS40, in heavy 19 in. rack cabinet. Mains power transformer & 2 valves missing. \$50 ONO. **WW2 aircraft generator alternator** 28 V & 100 A @ 1200-1400 Hz, 1200 W \$50 ONO. Suit electric car? Both buyer collect. I can't lift! **Stingray 2** (converted CB), 10 m SSB 24 ch transceiver, vgc, \$40. **Katsumi** Electronic keyer, includes paddle & 6 V dc or 240 V ac power supply, \$30. **Daiwa RF Model RF550** speech processor, 13.8 V dc or 230 V ac, \$50. Keith VK2AXN QTHR, Sydney. Phone 02 9489 0304.

• **Running a ham radio course?** Call us for books to use with your course or studies. We have Novice Theory Handbook, Study Guide for the Novice, and AOCPC theory and AOCPC Study Guide. A total of 4 books which in effect provide a complete self-study program for anyone wanting to get their ham licence, or anyone running a course and needing economically priced and concise texts. All books written and published by an Australian ham who is a retired TAFE teacher with 15 years of experience with radio classes. Scotty, VK2KE. Email enquiries welcome to gscott@albury.net.au, mail to PO Box 385 Albury NSW 2640 or FAX on Phone 02 6021 8813.

• **Deceased estate. KENWOOD TS 2000.** All band. Used 1 week. Sn 30400058 \$3200. **YAesu FT-920 HF** Xcvr, as new. sn 71090482 \$1200. **ICOM IC-255A** 2 m mobile 25 W sn 04868 \$150. Ron VK2GUB Phone 02 9484 4226

## WANTED NSW

• **Antenna tuner** Emtron EAT-300 or EAT-300A. Roger VK2ARF QTHR Fax/Phone 02 9440 1212

• **Yaesu FT-690** 6 metre portable transceiver. Bob VK2CAN. Phone 02 9416 3727

## MISCELLANEOUS

• The WIA QSL Collection (now Federal) requires QSLs. All types welcome, especially rare DX pictorial cards, special issue. Please contact the Hon Curator, Ken Matchett VK3TL, 4 Sunrise Hill Road, Montrose Vic 3765, tel. (03) 9728 5350

## STOLEN EQUIPMENT

• Below is a list of equipment that was stolen from my vehicle, while I was working at the Dandenong basketball centre on the 18/1/2002, between 7 and 10 PM: **Kenwood TS 790a** Serial #51200137, all mode TriBand Radio, fitted with 23cm (UT 10) module serial number 51000035 and **TSU 5** tone unit; **Garmin GPS 2 Plus** serial number 40639025; **Kenwood DPC-M727** Portable CD/MP3 player serial #10900136. Frank VK3ZNF, Phone 0409 459 468

• The ACA recently had the theft of equipment from its Adelaide office that may be offered to amateurs. If any amateur is offered this equipment or has information could they please contact their local ACA office or the nearest police station.

The stolen items:

**Nikon Digital Camera CoolPix950** s/n 408855

**Icom UHF H/Held ICU16** s/n 5167

**Opelelectronic 3000** Frequency Counter s/n 3

**AOR-8000 Scanning Receiver** s/n 41248

**Garmin GPS Receiver** s/n 40445710

<http://www.hamsearch.com>

a not-for-profit site that is a search engine for hams

## TRADE ADS

### PSK-31, SSTV, RTTY SOUNDBOARD INTERFACES

Fully isolated, ready to plug in.

<http://www.G3LIV.CO.UK>

[johnny@melvin.com](mailto:johnny@melvin.com), G3LIV QTHR.

### AMIDON FERROMAGNETIC CORES:

For all RF applications. Send business size SASE for data/price to RJ & US Imports, PO Box 431, Kiama NSW 2533 (no enquiries at office please. 14 Boanyo Ave Kiama). [www.cyberelectric.net.au/~rjandusimports](http://www.cyberelectric.net.au/~rjandusimports).

Agencies at: Active Electronics Tas; Truscotts Electronic World, Melbourne; TTS Systems, Tyabb; Tower Communications, Perth; Haven Electronics, Nowra.

### HF, VHF, UHF ANTENNAS & ACCESSORIES

Alum towers, guys etc. Diamond VSWR/PWR meters. HD copper ant wire & insulators. TX tubes & pwr transistors. Quality coax cables & connectors. Free advice & catalogue. ATN Antennas Ph 03 5492 2224 Fax 03 5492 2666, email [atnant@ruralnet.net.au](mailto:atnant@ruralnet.net.au)

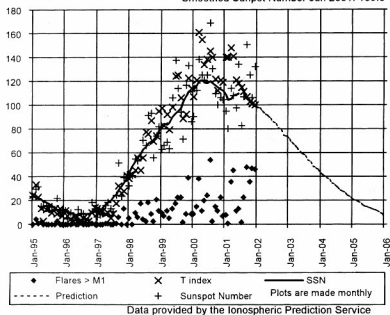
## Email your hamad

Then we just cut and paste.  
You proof it, you retain control.

## Sunspot Numbers

Monthly average count Dec 2001: 131.8

Smoothed Sunspot Number Jun 2001: 109.8



## ADVERTISERS INDEX

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## "Hey, Old Timer..."



If you have been licensed for more than 25 years you are invited to join the

### Radio Amateurs Old Timers Club Australia

or if you have been licensed for less than 25 but more than ten years, you are invited to become an Associate Member of the RAOTC.

In either case a \$2.50 joining fee plus \$8.00 for one year or \$15.00 for two years gets you two interesting OTN Journals a year plus good fellowship.

Write to:

RAOTC,  
3/237 Bluff Road  
Sandringham VIC 3191

or call Arthur VK3VQ on 03 9598 4262 or Allan VK3AMD on 03 9570 4610, for an application form.

## Un-Silent Key

We are pleased to advise that contrary to the report in January AR, Ted Miles VK2FLB is alive and well! Amateur Radio apologises for any embarrassment or distress caused by this error.

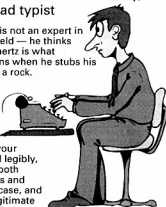
### PLEASE BE KIND TO OSCAR

Meet Mr Oscar Goldenbox, our Hamad typist

Oscar is not an expert in your field — he thinks Megahertz is what happens when he stubs his toe on a rock.

To help Oscar, please write your hamad legibly, using both capitals and lower case, and use legitimate abbreviations.

This will reduce the chance of errors being published, which inconveniences everyone.





# Over To You

## CRTB

It brought back great memories to read the article by Allan Madigan in the December issue. I too have always maintained that my time in, the Chief Telegraph Office Sydney was great part of my education. I also worked in the Telegraph Offices in Melbourne Hobart and finished my career in Perth.

On the subject of "Cutting em up" the one he didn't mention was the Lottery results sent daily by morse to West Maitland (now known as Maitland). When you called up West Maitland and said "Sli (shall I go ahead) Lottery", he would say "Ga Cut Em Up".

This meant the following abbreviations: 1 sent as A, 2 as U, 3 as V, 5 as E, 7 as B, 8 as D, 9 as N, 0 as T

This involved intense concentration and at the Sydney end you were relieved after 15 minutes but the receiving Postal Clerks had no breaks.

When morse was removed from West Maitland and they went on to Teleprinters - after a week the Editor of the Mercury, insisted that the Lottery Press be taken on morse. This was done for quite a while.

Frank Spruhan of CRTB fame is buried in a small country cemetery in Mid North Coast of NSW and on the bottom of his headstone is C R T B.

73s to any former Telegraphist colleagues.

Ken Knox VK6ZO

## Don't lower the standard

I just cannot believe that any forward thinking or sensible person would contemplate denigrating our hobby by lowering the standard of entry.

Surely it is bad enough that we have reduced the morse barrier somewhat and our technical standard is at a low level already. If we get any lower we will undoubtedly not retain the reciprocal levels which we enjoy presently with the major countries.

It seems that this matter is driven by a need to increase WIA membership, and

as a WIA member I most strongly support an increase in membership. However to my mind there is only one efficacious way to do that. Yes, by that I mean compulsory membership. OK, don't throw the magazine away yet.

Firstly. Most Sporting and Hobby groups in this country are required to affiliate with either a State or Federal body. We don't have that compulsion, but we rely on our WIA to do the work to maintain both our status and standards with the Federal Government. It is only those few who subscribe to the Institute who provide the funds (most unfairly) to enable this to happen. I can only suppose that the fees levied by our association are indicative of the numbers of members it has. Surely then, if we had compulsory membership the fees could be reduced drastically. Other government departments have provision in their licensing procedures to ensure memberships are retained so why can't that apply equally to us

Finally, to lower the standard, to allow the CB fraternity on to our frequencies would in no way guarantee an increase of WIA members. Doubtless it would increase our amateur numbers but I believe that there is sufficient increase in our numbers world wide to justify retaining standards as they are without losing our present privileges.

I share fully the sentiments of Chas VK3BRZ (AR Dec 2001). If this occurs, I will be leaving the Institute.

Bill McCarthy VK4WMC

## Internet and Amateur Radio

I disagree with Stan Ellis, VK2DDL, whose comments in AR January 2002 are obviously well intentioned, but he is really off the mark in today's society.

One of the problems we face in the promotion of the hobby of Amateur Radio, is the fact that most of those "technical types" who previously would pursue studies in obtaining the AOC or LOACP etc, are now obtaining their "kicks" from the Internet.

Let's face it, amateur radio (the hobby) as we know it today is on the downside, especially here in VK.

When I was eight (in 1949 !!), I was introduced to MF and short wave radio from a friend who helped me build my first crystal set. I had great delight in being able to listen to local MF stations, and later I was able to receive some overseas stations. That interest has continued all my life, and I have had the privilege to have achieved the technical qualifications required, and held an Amateur Radio licence (AOCP) for over 30 years.

Comparing today as to how I started in a radio hobby all those years ago, I only have to look no further than my immediate family. My four year old grandson already has a (healthy ??) interest in computers. He can move the mouse, log on to various programs such as "Bob the Builder" and "Train Simulator". I guess in time he may show an interest in radio, but all of my friends state that none of their children have any interest in anything else EXCEPT their computer, and the Internet.

I am a computer technician (semi retired!), in my travels to businesses and private homes, I often come across a computer which has broken down, and where the owner is a teenager. If you want to see real distress, remove his / her computer and Internet access for a few days. Mention amateur radio, and you get a blank look. Any thought of radio at all refers to the music (!) played on the commercial FM band.

If the Internet can be used as a means to inspire an interest of Amateur Radio in our younger generation to our declining hobby, then I am all for it.

We shut our doors and ears to the CB boom in the late 70s and early 80s with disastrous results. Amateur Radio lost out then, and it is now happening again.

Our destiny is in our own hands, but we achieve little with negative attitudes.

Vy 73 Bruce Bathols VK3UV

Note 1 Views expressed in letters are those of the authors and do not necessarily represent the policy of the WIA.  
2. Some of the letters may be shortened to allow more letters to be published.



# Division Directory

The Amateur Radio Service exists for the purpose of self training, intercommunication and technical investigation. It is carried out by amateurs who are duly authorised people interested in radio technique solely with a personal aim and without pecuniary interest.

The Wireless Institute of Australia represents the interests of all radio amateurs throughout Australia. National representation is handled by the executive office under council direction. There is one councillor for each of the seven Divisions. This directory lists all the Divisional offices, broadcast schedules and subscription rates. All enquiries should be directed to your local Division.

**VK1 Division** Australian Capital Territory  
GPO Box 600, Canberra ACT 2601  
President: Gilbert Hughes  
Secretary: Peter Kloppenburg  
Treasurer: Linden S Orr

VK1GH  
VK1CPK  
VK1LSO

**VK2 Division** New South Wales  
109 Wigram St, Parramatta NSW  
(PO Box 432, Harris Park, 2150)  
(Office hours Mon-Fri 1100-1400)  
Phone 02 9689 2417  
Web: <http://www.ozemail.com.au/~vk2w/>  
Freecall 1800 817 644  
e-mail: [vk2w@ozemail.com.au](mailto:vk2w@ozemail.com.au)  
Fax 02 9633 1525  
President: Terry Davies  
Secretary: Pat Leeper  
Treasurer: Chris Minahan

VK2KDK  
VK2JJA  
VK2EJ

**VK3 Division** Victoria  
40G Victory Boulevard Ashburton VIC 3147  
(Office hours Tue 10.00 - 2.30)  
Phone 03 9885 9261  
Web: <http://www.viawic.org.au>  
Fax 03 9885 9298  
e-mail: [viawic@viawic.org.au](mailto:viawic@viawic.org.au)  
President: Jim Linton  
Secretary: John Brown  
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VK3PC  
VK3JJB  
VK3XV

**VK4 Division** Queensland  
PO Box 199, Wavell Heights, Qld. 4012  
Phone 07 3221 9377  
e-mail: [office@wqg.powerup.com.au](mailto:office@wqg.powerup.com.au)  
Fax 07 3266 4929  
Web: <http://www.wia.org.au/vk4/>  
President: Bill Riis  
Secretary: Bruce Jones  
Treasurer: Bill McDermott  
Office Mgr: John Stevens

VK4YCU  
VK4EHT  
VK4AZM  
VK4AFS

**VK5 Division** South Australia and Northern Territory  
(GPO Box 1234 Adelaide SA 5001)  
Phone 0403 368 066  
Web: <http://www.sant.wia.org.au>  
e-mail: [peter.reichelt@bigpond.com](mailto:peter.reichelt@bigpond.com)  
President: David Minchin  
Secretary: Peter Reichelt  
Treasurer: Trevor Quick

VK5KK  
VK5APR  
VK5ATQ

**VK6 Division** Western Australia  
PO Box 10 West Perth WA 6872  
Phone 08 9351 8873  
Web: <http://www.vk6wia.org>  
e-mail: [vk6wia@inet.net.au](mailto:vk6wia@inet.net.au)  
President: Neil Penfold  
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also: <http://www.wis.org.au/vk7>  
e-mail: [batesjw@netspace.net.au](mailto:batesjw@netspace.net.au)  
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VK7ZAX  
VK7RTT  
VK7RTT

## Broadcast schedules All frequencies MHz. All times are local.

VK1WI: 3.590 LSB, 146.950 FM each Thursday evening from 8.00pm local time. The broadcast text is available on packet, on Internet [www.amsat.org](http://www.amsat.org) news group, and on the VK1 Home Page <http://www.vk1.wia.ampr.org>

**Annual Membership Fees.** Full \$77.00 Pensioner or student \$70.00. Without Amateur Radio \$48.00

From VK2WI 1.845, 3.595, 7.146\*, 10.125, 14.160, 24.950, 28.320, 29.120, 52.120, 52.525, 144.150, 147.000, 438.525, 1281.750 (\* morning only) with relays to some of 18.120, 21.170, 584.750 ATV sound. Many country regions relay on 2 m or 70 cm repeaters. Sunday at 1000 and 1930. Highlights included in VK2AWX Newcastle news, Monday 1930 on 3.593 plus 10 m, 2 m, 70 cm, 23 cm. The broadcast text is available on the Internet newsgroup [www.amsat.org](http://www.amsat.org) and on packet radio.

**Annual Membership Fees.** Full \$78.00 Pensioner or student \$61.00. Without Amateur Radio \$47.00

VK3BWI broadcasts on the 1st Sunday of the month at 20.00hrs Primary frequencies, 3.615 LSB, 7.085 LSB, and FM(R)s VK3RML 146.700, VK3RMM 147.250, VK3RWG 147.225, and 70 cm FM(R)s VK3ROU 438.225, and VK3RPU 438.075. Major news under call VK3ZWI on Victorian packet BBS and WIA VIC Web Site.

**Annual Membership Fees.** Full \$78.00 Pensioner or student \$61.00. Without Amateur Radio \$47.00

VK4WIA broadcasts on 1.825 MHz SSB, 3.605 MHz SSB, 7.118 MHz SSB, 10.135 MHz SSB, 14.342 MHz SSB, 21.175 MHz SSB, 28.400 MHz SSB, 29.660 MHz FM (rptr), 147.000 MHz, and 438.525 MHz (in the Brisbane region, and on regional VHF/UHF repeaters) at 0900 hrs K every Sunday morning. QNEWS is repeated Monday evenings, at 19.30 hrs K, on 3.605 MHz SSB and 147.000 MHz FM. On Sunday evenings, at 18.45 hrs K on 3.605SSB and 147.000 FM, a repeat of the previous week's edition of QNEWS is broadcast. Broadcast news in text form on packet is available under WIAQ@VKNET. QNEWS Text and real audio files available from the web site

**Annual Membership Fees.** Full \$83.00 Pensioner or student \$71.00. Without Amateur Radio \$52.00

VK5WI: 1827 kHz AM, 3.550 MHz LSB, 7.095 AM, 14.175 USB, 28.470 USB, 53.100 FM, 147.000 FM Adelaide, 146.800 FM Mildura, 146.900 FM South East, 146.925 FM Central North, 438.475 FM Adelaide North, ATV Ch 35 579.250 Adelaide. (NT) 3.555 USB, 7.065 USB, 10.125 USB, 146.700 FM, 0900 hrs Sunday. The repeat of the broadcast occurs Monday Nights at 1930hrs on 3585kHz and 146.675 MHz FM. The broadcast is available in 'Realaudio' format from the website at [www.sant.wia.org.au](http://www.sant.wia.org.au) Broadcast Page area.

**Annual Membership Fees.** Full \$82.00 Pensioner or student \$68.00. Without Amateur Radio \$54.00

VK6WIA: 146.700 FM(R) Perth at 0930hrs Sunday relayed on 1.865, 3.564, 7.075, 10.125, 14.116, 14.175, 21.185, 29.120 FM, 50.150 and 438.525 MHz. Country relays 3.582, 147.200 (R) Catby, 147.350 (R) Busseton, 146.900 (R) Mt William (Bunbury), 147.000 (R) Kalanning and 147.250 (R) Mt Saddleback. Broadcast repeated on 146.700 at 1900 hrs Sunday relayed on 1.865, 3.564 and 438.525 MHz : country relays on 146.900, 147.000, 147.200, 147.250 and 147.350 MHz. Also in 'Real Audio' format from the VK6 WIA website

**Annual Membership Fees.** Full \$67.00 Pensioner or student \$61.00. Without Amateur Radio \$36.00

VK7WI: 146.700 MHz FM (VK7RHT) at 0930 hrs Sunday relayed on 147.000 (VK7RAA), 146.725 (VK7RNE), 146.625 (VK7RMD), 3.570, 7.090, 14.130, 52.100, 144.150 (Hobart), repeated Tues 3.590 at 1930 hrs.

**Annual Membership Fees.** Full \$85.00 Pensioner or student \$72.00. Without Amateur Radio \$52.00

**VK8** Northern Territory (part of the VK5 Division and relays broadcasts from VK5 as shown, received on 14 or 28 MHz).

# Be the predator, not the prey

## IC-756PROII (HF/6m)

### Amateur Transceiver



ICOM raises the bar of excellence with the world's most powerful DSP technology in amateur radio history with the IC-756PROII. From the box to heavy contest action, in a matter of seconds. Imagine the fun and excitement of creating your own filter width and shape while on the air, rag chewing, or in the middle of a pile-up!!

#### Features include

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- 4 to 40W AM
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